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**PROCEEDINGS
OF
ARC 2014
II INTERNATIONAL
CONFERENCE ON APPLIED RESEARCH IN
BUSINESS, MANAGEMENT, ECONOMICS AND
FINANCE**

August 2nd, 3rd – 2014

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**PROCEEDINGS
OF
ARC2014
II INTERNATIONAL CONFERENCE ON APPLIED
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August 2nd, 3rd – 2014

Editor
Kevin Smith
Educational Consultant
USA

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ARC 2014
WELCOME TO THE
II INTERNATIONAL CONFERENCE ON
APPLIED RESEARCH IN BUSINESS,
MANAGEMENT, ECONOMICS AND FINANCE

KEY NOTE SPEAKER



Dr. Ravichandran Krishnamurthy

Associate professor and Director of Experiential Learning,
New York Institute of technology, Abudhabi Campus, UAE

An astute & result oriented professional with over 22 years of extensive experience in operations, business development, academics and institution building. Currently employed as Associate Professor and Director of Experiential Learning, New York Institute of technology, Abudhabi Campus, UAE.

He holds the Post doctoral fellowship from University Kebangsaan Malaysia and Ph.D. in Finance from the University of Madras, India. His area of expertise is primarily with corporate finance and conducts focused research in the Behavioral finance and company analysis. He has co- authored several text books in Finance which are mainly focused on Indian markets. He made intellectual contributions that impact on the academic community in the area of corporate and Behavioral finance through papers published in competitive journals in this domain space (*Finance India, Journal of investment, Money and Banking, International Journal of Economics and Finance...*). He has also made contributions through service to the academic community, as recognition of his scholarship, through her inclusion as a reviewer and/or discussant for several academic conferences and also acting as an Editor of an International Journal. His research in the field of finance also resulted in contribution to teaching and learning by way of the receipt of a NYIT ISRC grant award. His Intellectual contributions have furthered higher education initiatives through his continued collaborative experiential education work with students into the annual Corporate Challenge Competition. His Intellectual contributions, by way of faculty-mentored student research projects were presented by students at International conferences and also got published International journals.



FOREWORD

Dr. RaedElzenaty, DDS, MBA
Director of Institutional Research & Assessment
New York Institute of Technology
Abu Dhabi Campus, UAE

It is a great pleasure to be invited to the ARC 2014- II International Conference on Applied Research in Business, Management, Economics and Finance, and a privilege to write this forward.

It is a wonderful thing to encourage and broaden the realm of academic research to today's world, and an even better thing to bring academics and researchers together in the common bond of academic research and development. The exchange of ideas and discussion of viewpoints is not only precious but a necessary rung in the ladder to achieving global education initiatives.

It is my hope that the two days of the ARC 2014 International Conference on Applied Research in Business, Management, Economics and Finance will encourage us all and enable us to bring home the motivation to spread among our peers and students.

Sincerely,

Dr. RaedElzenaty, DDS, MBA

FOREWORD



**Dr.K.PrakashVel,
Associate Professor,
University of Wollongong in Dubai.**

It gives me immense pleasure in writing a foreword to the 'Academic Research Conference 2014 in Business, Management, Economics and Finance, being organized by Academic Research Publishers at Pattaya Bangkok, during August 2nd, 3rd- 2014.

ARC is a forerunner in creating and exchanging knowledge in the field of Business Management featuring major developments in the global economy and markets. They have been successful in organizing conferences to exchange skills and acumen on theory and practice on current and emerging management principles, ideas, concepts and research methods facilitating analysis among academicians, scholars and students, both at the post graduate and doctoral levels. I strongly believe that the conference would not only inspire the delegates participating from different parts of the World, but also further add to the existing literature in different research domains in business management.

I am positive that the two days'International Conference would be beneficial to the participants. I extend my sincere wishes for a successful conference.

Dr. K. PrakashVel

FOREWORD



July 23, 2014

Dr. R. Krishna
Director - PG Studies
CITech, Bangalore.

It is with immense pleasure that I write this Foreword for the the Proceedings of the International Conference scheduled to be held on August 2nd, 3rd- 2014, organised by the Academic Research Conferences/Publishers, Abu Dhabi, UAE

I am informed that the responses are overwhelming from all corners in the form of quality research papers submitted for review/approval for presentation during the conference. I am sure, the Proceedings of the conference will serve as an excellent reference book to the Management teachers the world over. I trust also that this conference will be an impetus to stimulate further study and research in all the areas.

Wishing Godspeed in all the endeavours.

Dr. R. Krishna.

FOREWORD



Gantasala V. Prabhakar, Ph.D
Assistant Dean, School of Management
& Associate Professor
New York Institute of Technology,
Abu Dhabi Campus, UAE

Knowledge stems from extensive research undertaken by the multitude of experts in academia and the corporate. It then becomes quintessential that research-based findings that contribute to extant knowledge must be shared. One of the integral elements of Nonaka and Takeuchi's SECI model is Knowledge Sharing. I have believed that bringing researchers from across the globe working in their domains of expertise on a common platform is in the direction of creating strong Communities of Practice. Academic Research Publishers has set a benchmark in organizing these congregations of knowledge and research pools and presenting opportunities for knowledge sharing and in turn fuelling possibilities of knowledge creation. ARC has successfully over the years provided the base to present, discuss and enhance research developments in each of the management functions.

ARC has also garnered increasing patronage of participants who represent all the major continents and that in itself has been very inspiring and satisfying for me to be a part of their success. The conferences organized have seen an overwhelming response from global experts and is a testimony of the credentials that ARC embodies and has stood for.

It is my privilege to applaud their vision, their efforts and to be part of The II International Conference on Applied Research in Business, Management Economics and Finance-2014. Given the calibre of the participants and the values that are enshrined by conferences organized by ARC, I am very assured that the two-day conference will be a resounding success and will draw appreciation and support from all associated with this noble endeavour.

Gantasala V. Prabhakar, Ph.D

FOREWORD



Dr. S. Jayachandran
Professor and Former Senate Member,
University of Madras
(By Nomination His Excellency , The
Governor- Chancellor Govt.of Tamilnadu)

It gives me great pleasure in writing a foreword to the ' II International Conference on Applied Research in Business, Management, Economics and Finance ' being organized by Academic Research Publishers at Pattaya during August 2nd, 3rd- 2014.

ARC is a pioneer in creating and disseminating knowledge in the field of Business and Management catering to today's global economy and market. They always organize a global platform to publicize and exchange management principles, ideas, concepts and research methods and analysis among academicians, scholars and management student communities. I strongly believe that the conference would not only inspire the delegates who shall come from different parts of the globe , but also enable them to gain much in sharing innovative ideas and research methods .

I am very much confident that the two days 'II International Conference on Applied Research on Business, Management, Economics and Finance' would prove to be a great success and I would like to express my heartfelt Greetings and Congratulations to the organizers - ARC.

Dr S. Jayachandran



ARC- 2014
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Editor, IARJBM, ACRPUB

Contact Chair

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Director, Indian Operations
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Email: jey@acrpublish.com

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Contact us

<http://www.arcconferences.com>

Email: arc2014@acrpublish.com

ARC 2014

II International Conference on Applied Research in Business Management, Economics and Finance

DATE: August 2nd, 3rd- 2014.

LOCATION : **ALL SEASONS HOTEL, Pattaya, Thailand**

TIME	AGENDA	PLACE
08:00 - 08:30	REGISTRATION	Hotel All Seasons Conference Room 1
8.30-9.00	<p>CONFERENCE INNAGURATION</p> <p><u>Welcome address:</u> Mr. C. Jey Yoganand Director, ARC 2014</p> <p><u>Key Note Address:</u> Dr. Ravichandran Krishnmurthy Associate Professor, School of Management, New York Institute of Technology, Abudhabi, UAE</p> <p><u>Honouring</u> <u>ARC LOYAL</u> <u>Participants</u></p>	Hotel All Seasons Conference Room
9.00 - 9.15	Tea Time and Academic Exchange	Conference Lounge
9.15 - 1:00	Paper Presentation Hall (1)	All Seasons Conference Room
1:00 - 2:00	LUNCH BREAK	Conference Lounge
2:15 - 5:30	Paper Presentation Hall (1)	All Seasons Conference Room
5:45 - 6:00	Best Paper Award and Certificate Distribution	All Seasons Conference Room

DAY 1

Conference Schedule All Seasons Conference Room SESSION CHAIRS

Dr. Sandeep Ojha
Senior Faculty Member,
International Business Department,
College of Applied Sciences,
Salalah, Sultanate of Oman

Dr. R. Arasu,
PRINCIPAL,
University of Madras Constituent College
of Arts and Science, Nemmeli,
Chennai, India

02-07-2014, Saturday

REF. No.		TIME
1	Human Resource Accounting: Cost-Value Information For Making Managerial Decision Author: Dr. Sandeep Ojha	9.15-9.30
2	Impact Of Government Expenditure On Economic Growth In India – An Econometric Enquiry Over The Period 1970-2012 Author: Amit Kundu	9.30- 9.45
3	Financial Decision Making & Investor Behaviour Authors: Amit Mirji & Dr. Prashanth C	9.45- 10.00
4	Work Life Balance: An Empirical Study Of Married Women Entrepreneurs In The City Of Mangalore, Karnataka. Authors : Ms. P.V Sumitha & Mrs. Preethi Keerthi DSouza	10.00-10.15
5	Managerial skills in SME Authors: Dr. R. Arasu, Mr. Mujeebur Salahudeen	10.15-10.30
6	A Study On Teaching And Quality Assessments Of 'Accounting Education' In Saudi Arabia Author: Dr. R B Sharma	10.30-10.45
7	Exchange Rate Volatility In Indo-Pakistani Trade: A Study With Nelson – Beveridge Decomposition Authors: DR. SHYAM CHARAN BARMA	10.45-11.00
8	Financial Forecasting And Corporate Valuation Of Federal Express Corporation Authors: Tarek El Shahawy & Dr.K. Ravichaandran	11.00-11.15
9	Impediments In Development Of Teacher Talent: A Study In Selected State Universities Of Karnataka, India Authors: Mrs. Preethi Keerthi DSouza, Prof P. Pakkeerappa & Ms. P.V Sumitha,	11.15-11.30
10	Understanding The Role Of Packaging In The Supply Chain Activities – A Case Study Author: Lenin karthikeyan	11.30-11.45
11	An Information Technology Based Conceptual Framework For Supply Chain Performance Improvements Authors: Ankit Mahindroo, Dr. Piyush Verma & Dr. Harsh Vardhan Samalia	11.45-12.00
12	'Quality Management Practices' Grounded Pathway To Higher Supply Chain Performance: An Appraisal Authors: Gaurav Goyal, Dr. Harsh Vardhan Samalia, Dr. Piyush Verma & Dr. Hergovind Singh	12.00-12.15
13	Assessing The Comparative Efficiency Of State Universities In Sri Lanka - Using Data Envelopment Analysis Authors: K.K.K. Dharmathilaka & Ariyaratna Jayamaha	12.30-12.45
14	An Integrated Group Solution Strategy In Supply Chain Management. Authors: S. S. Appadoo, A. Thavaneswaran, H. Kim & Jagbir Singh	12.45-1.00

15	The Influence Of Ethics At Work Place: A Study At Infrastructure University Kuala Lumpur, Malaysia Authors: Asokan Vasudevan, Dr. Ibrahim Zahari	1.00-1.15
16	Strategic Use Of RFID In Enhancing Supply Chain Management (SCM) Author: Siva Prasad Ravi	1.15-1.30
17	Poverty Alleviation Strategies And New Economic Model In Malaysia Authors: Dr. Mohd Zin Mohamed, Dr. John Antony Xavier	1.30-1.45
18	Warehouse Order Sizes and Cross Docking Author: Avninder Gill	
Lunch Break 2.00-3.00 P.M.		

ABSENTIA PRESENTERS

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1	Effects Of International Tourists' Motivation And Perceived Value On Behavioral Intentions: A Study Of Malaysian Hospitality Industry Authors: Normaziah Che Musa, Zainora Hayat binti Hudi, Misyer Mohamed Tajudin & M.S.B. Siddiq	
2	The Effectiveness Of Communicating Customer Value Author: Dr. Sławomir Czarniewski	
3	A New Paradigm For Selecting Saas Marketing Strategies Authors: Michael Mager, Stephen Belomy & Carsten Rennhak	
4	The Main Aspects Of Market Communication In Poland Author: Dr. Sławomir Czarniewski	
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19	Oil Price Volatility and its Impact on the Selected Economic Indicators in India Authors: Dr. P. Srithar, N. Bairavi and G. Mariselvam,	

DAY 1 - Day 6

TOUR PROGRAM ITENARY

Day 1: 01 Aug: Friday Origin /Bangkok/Pattaya (B)

- Arrival Bangkok, Meet our Representative and proceed to Pattaya
- Check into Hotel All Seasons Pattaya
- Breakfast at Indian Restaurant and Proceed to Noog nooch
- Return to Hotel
- Evening Alcazar show
- Overnight in Pattaya Hotel All Seasons

Day 02: 02 Aug :Saturday : Pattaya (B, L)

- Breakfast at Hotel
- Full day conference, with 02 tea/coffee breaks + Lunch,
- (Conference Equipment: Whiteboard, Flip Chart, Microphone.(Excluding LCD Projector, Pattaya))
- Optional : Sri Racha Tiger Zoo (2 batches Morning/ Afternoon)
- Overnight in Pattaya Hotel All Seasons

Day 03 : 03 Aug Sunday: Pattaya (B,L)

- Breakfast at Hotel,
- Coral Island Tour with lunch
- Overnight in Pattaya Hotel All Seasons

Day 04: 04 Aug Monday: Pattaya/Bangkok (B)

- Breakfast at the Hotel
- check out from Pattaya Hotel
- Proceed to Bangkok for city tour
- Check in to Hotel All Seasons Siam Bangkok .
- Overnight in Bangkok Hotel Siam

Day 05: 05 Aug Tuesday : Bangkok (B)

- Breakfast at the Hotel
- Optional Floating Market + Crocodile Form
- Overnight in Bangkok Hotel All Seasons Siam

Day 06: 06 Aug Wednesday :Bangkok/Origin (B)

- Breakfast at Hotel
- Check out
- Proceed to Airport to connect your flight to your Origin

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Human Resource Accounting: Cost-Value Information for Making Managerial Decision

Dr. Sandeep Ojha
Senior Faculty Member,
International Business Department,
College of Applied Sciences, Salalah, Sultanate of Oman.
Email: sandeepojha555@gmail.com

Abstract

Now the day's as commercial enterprises developed, the proportion of transactions increased and with this there came many changes from time to time in accounting procedure. In any type of business two types of resources are used; active resources and inactive resources. Human resource is called as active resource as it uses the other non active resource and makes it possible to the best utilization of that inactive resource. We also know that in modern manufacturing environment the quantity of human resource has been reduced up to a great extent but still without a minimum quantity and quality of human resource, a business cannot be operated. Hence, the human resource will always have an upper hand over the other inactive resources.

As the HRA is compulsory neither under the Companies Act, 1956 nor under the Accounting Standards, this paper is an attempt to explore prevailing practices of HRA in Oil & Natural Gas Corporation Ltd. by applying Lev & Schwartz model.

Key Words: HRA, Active Resources, Inactive Resources, ONGC, Human Capital.

INTRODUCTION

In the earliest ages man's commercial activities were based upon direct barter and therefore, the keeping of records was not a part of business organization. Later on, some raw material started to be used and hence, little bit of requirement of pricing and transactions in money was realized which helped to invent the coins and other notes. Most of the transactions were done in cash, but as soon as the principles of transactions upon credit terms became part of commercial practice, records became a necessity in order that the trader might know what amounts were owing to him by his customers and what as owing by him to his creditors. As commercial enterprises developed, the proportion of transactions increased and with this there came many changes from time to time in accounting procedure. Now businesses have reached

their developed stage. In any type of business i.e. manufacturing industry or service industry two types of resources are used; Active resources and Non-active resources.

In the words of *Michael.W. Glautier*:
"Many Executives say that people constitute the most priceless asset of the business yet current account practices neither measure nor report their value."

Today, human and intellectual capitals are perceived to be the strategic resources and therefore, clear estimation of their value has gained significant importance. The increased pressures for corporate governance and the corporate code of conduct demanding transparency in accounting have further supported the need for developing methods of measuring human value. In India, human resource valuation has not yet been institutionalized some public as well as private companies

have adopted HRA. The Companies Act, 1956, does not explicitly provide for disclosure on human assets in the financial statements of the companies. But sensing the benefits derived from valuing and reporting the human assets, many companies have voluntarily disclosed all relevant information in their books.

The aim of HRA is to depict the potential of HR in monetary terms, while casting the organization's financial statements. The concept can be examined from two dimensions: (i) the investment in HR; and (ii) the value of HR. The expenditure incurred for recruiting, staffing and training and developing the HR quality is the investment in HR. The fruits of such investments are increased productivity and profit to the organization. The yield that the investment generates is considered as the basis for HR value.

OBJECTIVES OF THE STUDY

The present study has been taken up with the following objectives:

To investigate current practices in ONGC in valuing their human resources.

To analyze the current human resource valuation practices of ONGC.

To ascertain whether human resources valuation is worthwhile for internal management purposes as well as for decision making by investors, financiers and creditors.

To ascertain the viewpoint of executives professional accountants and shareholders about the desirability of public disclosure of human resource data by corporate enterprises.

To suggest effective human resources accounting model for Indian corporate companies.

RESEARCH METHODOLOGY

Sample Area: The present study is a resource approach to manpower. To make the study more concrete and meaningful, the researcher has selected Infosys Technology Ltd.

Period of the Study: 2003-2004 to 2007-2008.

Methods of Data Collection.

a) **Primary Sources:** The primary data for the purposes of the study have been collected from the corporate office, zonal office and divisional office and branches of ONGC. Personal interviews were held at various levels of the enterprises viz. managers, executives, supervisors, technical staff, clerical and office staff, etc. to collect primary data.

b) **Secondary Sources:** These include annual reports, journal and magazines, standard books, newspapers and other literature.

Sampling Technique: Sampling technique used in the study is deliberate sampling technique.

Statistical Tools: To test the given hypothesis and presentation survey findings, the appropriate statistical tools, wherever necessary, have been used.

The Lev and Schwartz Model

This Model is also known as the Compensation Model. Given the uncertainty and the difficulty associated with determination of the value of human capital, Baruch Lev and Aba Schwartz suggested the use of an individual employee's future compensation as a surrogate of his value. According to them, "the value of human capital embodied in a person of age x is the present value of his remaining earnings from employment."^{1insert}

foot note This value for a discrete income stream is:

$$\frac{T}{V_x} = \sum_{t=x} \frac{I(t)}{(1+r)^{t-x}}$$

Where V_x = the human capital value of a person x years old.

$I(t)$ = the person's annual earnings upto the retirement

r = a discount rate specific to the person and

T = retirement age.

Because V_x is an ex-post value, given that $I(t)$ is obtained only after retirement, and V_x ignores the possibility of death occurring prior to retirement age, the authors have refined the valuation model after incorporating $P_x(t)$ the probability of a person dying at age t in the following manner:

$$\Sigma(V'_x) = \sum_{t=x}^T P_x(t+1) \sum_{t=x}^t \frac{I'i}{(1+r)^{t-x}}$$

Where $I'i$ = Future annual earnings

$P_x(t)$ = the probability of a person dying at age t , and

$\Sigma(V'_x)$ = The expected value of a person's human capital.

The firm's labour force will be divided into homogeneous groups of employees, such as unskilled, semiskilled, and skilled employees, engineers of different kinds, salesman, managerial staff, and etc. Average earnings profiles, based on census data, will be constructed for each group and the present value of human capital calculated. The sum of present values over the various employee groups will provide the total human capital value associated with the firm.

Case Study of Oil & Natural Gas Corporation Limited (ONGC)

After independence, the national Government realized the importance oil

and gas for rapid industrial development and its strategic role in defence. Consequently, while framing the Industrial Policy Statement of 1948, the development of petroleum industry in the country was considered to be of utmost necessity.

In 1955, the Government of India decided to develop the oil and natural gas resources in the various regions of the country as part of the Public Sector development. With this objective, an Oil and Natural Gas Directorate was set up towards the end of 1955, as a subordinate office under the then Ministry of Natural Resources and Scientific Research. The department was constituted with a nucleus of geoscientists from the Geological Survey of India.

Soon, after the formation of the Oil and Natural Gas Directorate, it became apparent that it would not be possible for the Directorate with its limited financial and administrative powers as subordinate office of the Government, to function efficiently. So, in August, 1956, the Directorate was raised to the status of a Commission with enhanced powers, although it continued to be under the government. In October 1959, the Commission was converted into a statutory body by an Act of the Indian Parliament, which enhanced powers of the Commission further. The main functions of the Oil and Natural Gas Commission subject to the provisions of the Act, were "to plan, promote, organize and implement programmes for development of Petroleum Resources and the production and sale of petroleum and petroleum products produced by it, and to perform such other functions as the Central Government may, from time to time, assign to it". The Act further outlined the activities and steps to be taken by ONGC in fulfilling its mandate.

Since its inception, ONGC has been instrumental in transforming the country's limited upstream sector into a large viable

playing field, with its activities spread throughout India and significantly in overseas territories. In the inland areas, ONGC not only found new resources in Assam but also established new oil province in Cambay basin (Gujarat), while adding new petroliferous areas in the Assam-Arakan Fold Belt and East coast basins (both inland and offshore). ONGC went offshore in early 70's and discovered a giant oil field in the form of Bombay High, now known as Mumbai High. This discovery, along with subsequent discoveries of huge oil and gas fields in Western offshore changed the oil scenario of the country. Subsequently, over 5 billion tonnes of hydrocarbons, which were present in the country, were discovered. The most important contribution of ONGC, however, is its self-reliance and development of core competence in Exploration and Production activities at a globally competitive level.

The liberalized economic policy, adopted by the Government of India in July 1991, sought to de-regulate and de-license the core sectors (including petroleum sector) with partial disinvestments of government equity in Public Sector Undertakings and other measures. As a consequence thereof, ONGC was re-organized as a Limited Company under the Company's Act, 1956 in February 1994.

After the conversion of business of the erstwhile Oil & Natural Gas Commission to that of Oil & Natural Gas Corporation Limited in 1993, the Government disinvested 2 per cent of its shares through competitive bidding. Subsequently, ONGC expanded its equity by another 2 per cent by offering share to its employees.

During March 1999, ONGC, Indian Oil Corporation (IOC), a downstream giant and Gas Authority of India Limited (GAIL), the only gas marketing company, agreed

to have cross holding in each other's stock. This paved the way for long-term strategic alliances both for the domestic and overseas business opportunities in the energy value chain, amongst themselves. Consequent to this the Government sold off 10 per cent of its share holding in ONGC to IOC and 2.5 per cent to GAIL. With this, the Government holding in ONGC came down to 84.11percent.

In the year 2002-03, after taking over MRPL from the A V Birla Group, ONGC diversified into the downstream sector. ONGC will soon be entering into the retailing business. ONGC has also entered the global field through its subsidiary, ONGC Videsh Ltd. (OVL). ONGC has made major investments in Vietnam, Sakhalin and Sudan and earned its first hydrocarbon revenue from its investment in Vietnam.

The company is continuously engaged in the human resource accounting during all the years under study.

Valuation of Human Resource

Valuation is based on most widely used "Lev & Schwartz" model.

Aggregate future earnings during remaining employment period of employees, discounted @ 8% p.a for all the years under study, provide present valuation.

Future earnings are based on current emoluments with normal incremental profile.

CONCLUDING OBSERVATION

The highest number of employees both technical and non technical was of the age group 41-50 though there was a reduction in the number of employees of this age group since 2004 at a very marginal rate. It seems that company has not recruited the staff against the retired

employees after their retirement and therefore the result is that total number of employees has been reduced since 2004. There were 38,033 employees in the year 2004 which came down to 32,996 in the year 2008.

The value of human resource increased in all the years under study. The highest value was in the age group of 41-50. It can be also seen that the highest value of executives was Rs.17,84,851 lakh in 2008 while the highest value of non-executives was Rs. 4,08,600 lakh in the year 2004. The highest total value of technical staff was Rs. 21,18,754 lakh in the year 2008. It can also be seen that the value of technical staff increased over the years gradually.

The value of human resource- non technical increased in all the years under study. The highest value has been found in the age group of 41-50. It can be also seen that in 2008 the highest values of executives and non executives were at Rs.4,04,245 lakh and 3,82,289 lakh respectively. The highest total value of non-technical staff was found highest in the year 2008 at Rs. 7,86,535 lakh. It can also be seen that the value of non technical increased over the years gradually.

It can be observed that the average values of technical employees were more than those of the non technical employees. The value of technical employees increased year to year, it was Rs. 71 lakh in 2004 which reached Rs. 95 lakh in 2008. The same type of trend can also be observed in the value of non technical staff, the value was Rs. 65 lakh in 2004 and reached Rs. 88 lakh in 2008. Overall, it may be seen that the average value of human resource was Rs. 65 lakh in 2004 and it reached Rs. 88 lakh in 2008.

Proposed Model:

In the researcher's view a company may follow the following easy method to calculate the value of human resource.

Sum up all the expenses incurred on employees' salaries, wages and other benefits.

The company should estimate in how many years it will get the benefit of the human resource expenses. Suppose for 5 years. Capitalize the whole amount and transfer the $1/5^{\text{th}}$ part of that amount to Profit and Loss A/C. The remaining $4/5^{\text{th}}$ part of that amount should be shown as an Asset under Human Resource Investment.

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APPENDIX**Table - I****Age-wise distribution of human resource-technical**

Particulars	Year	Upto 30	31-40	41-50	51-60	Total
Executive	2004	484	3,413	10,703	4,180	18,780
	2005	569	2,896	10,648	4,248	18,361
	2006	459	2,443	10,965	4,817	18,684
	2007	533	1,919	10,257	5,596	18,305
	2008	564	1,494	9,703	6,618	18,379
Non-Executive	2004	407	2,684	3,494	550	7,135
	2005	180	1,973	3,694	521	6,368
	2006	103	1,384	3,157	550	5,194
	2007	73	1,042	3,307	650	5,072
	2008	42	762	2,571	622	3,997
TOTAL	2004	891	6,097	14,197	4,730	25,915
	2005	749	4,869	14,342	4,769	24,729
	2006	562	3,827	14,122	5,367	23,878
	2007	606	2,961	13,564	6,246	23,377
	2008	606	2,256	12,274	7,240	22,376

Table - II**Age-wise distribution of human resource-non technical**

Particulars	Year	Upto 30	31-40	41-50	51-60	Total
Executive	2004	232	470	2,442	1,382	4,526
	2005	247	429	2,348	1,427	4,451
	2006	179	440	2,296	1,559	4,474
	2007	142	422	1,977	1,824	4,365
	2008	154	435	1,912	2,137	4,638
Non-Executive	2004	399	1,743	3,519	1,931	7,592
	2005	275	1,490	3,486	1,754	7,005
	2006	204	1,219	3,237	1,710	6,370
	2007	137	1,044	3,054	1,833	6,068
	2008	86	876	2,945	2,075	5,982
TOTAL	2004	631	2,213	5,961	3,313	12,118
	2005	522	1,919	5,834	3,181	11,456
	2006	383	1,659	5,533	3,269	10,844
	2007	279	1,466	5,031	3,657	10,433
	2008	240	1,311	4,857	4,212	10,620

Table-III
Valuation of Human Resource-Technical

(Rs. In Lakh)

Particulars	Year	Upto 30	31-40	41-50	51-60	Total
Executive	2004	59,100	3,68,200	8,57,800	1,46,200	14,31,400
	2005	71,241	3,24,785	8,62,515	1,65,787	14,24,328
	2006	69,724	3,28,675	10,51,833	2,30,627	16,80,859
	2007	87,881	2,81,789	10,59,876	2,91,754	17,21,300
	2008	1,00,919	37,459	10,76,734	3,69,738	17,84,851
Non-Executive	2004	29,900	1,75,300	1,90,300	13,000	1,08,600
	2005	13,487	1,32,880	2,07,330	13,824	3,67,521
	2006	9,079	1,13,453	2,19,744	18,830	3,61,106
	2007	8,157	1,01,377	2,57,329	2,24,722	3,91,581
	2008	4,557	76,697	2,24,840	27,810	3,33,904
TOTAL	2004	89,000	5,43,600	104,800	1,59,200	18,40,100
	2005	84,728	4,57,665	1,069,845	1,79,611	17,91,849
	2006	78,803	4,42,128	1,271,576	2,49,457	20,41,965
	2007	96,038	3,83,166	1,317,205	3,16,476	21,12,885
	2008	1,05,475	3,14,156	1,301,574	3,97,548	21,18,754

Source ONGC Annual Reports.

Table-IV
Valuation of human resource-non-technical

(Rs. In Lakh)

Particulars	Year	Upto 30	31-40	41-50	51-60	Total
Executive	2004	27,500	49,600	1,77,100	46,800	3,01,200
	2005	29,818	46,845	1,71,854	52,938	3,01,455
	2006	26,363	58,189	2,02,186	70,635	35,372
	2007	22,683	60,844	1,89,586	90,360	3,63,473
	2008	26,701	66,898	1,97,201	1,13,445	4,04,245
Non-Executive	2004	27,400	1,05,100	1,66,000	37,700	3,36,400
	2005	19,220	90,689	1,65,060	37,282	31,251
	2006	17,250	91,504	1,93,122	48,532	3,50,407
	2007	14,590	94,807	2,06,492	58,957	3,74,846
	2008	945	81,048	2,17,424	74,872	3,82,289
TOTAL	2004	55,000	1,54,800	3,43,100	84,600	6,37,600
	2005	49,038	1,37,534	3,36,914	90,220	6,13,706
	2006	43,613	1,49,693	3,95,307	1,19,167	7,07,779
	2007	37,273	1,55,651	3,96,078	1,49,317	7,38,318
	2008	35,646	1,47,946	4,14,625	1,88,317	7,86,535

Table - V
Average value per employee

(Rs. In Lakh)

Employee Group	Financial year					Average
	2004	2005	2006	2007	2008	
A. Technical						
Executive	76	78	90	94	97	87.0
Non Executive	57	58	70	77	84	69.2
Total (A)	71	72	86	90	95	82.8
B. Non Technical						
Executive	67	68	80	83	87	77.0
Non Executive	44	45	55	62	64	54.0
Total(B)	53	54	65	71	74	63.4
Grand Total (A+B)	65	66	79	84	88	76.4

Foot note

1. Lev, B. and Schwartz, A., On the Use of the Economic Concept of Human Capital in Financial Statements, Accounting Review, January 1971,pp.103-112.

Impact of Government Expenditure on Economic Growth in India – An Econometric Enquiry over the Period 1970-2012

Amit Kundu

Assistant Professor of Economics
Mathabhanga College, India.
e-mail: ms.amitkundu@rediffmail.com

Abstract

This article focuses on the literature related to the debate on the Wagner Hypothesis and the Keynesian Hypothesis. This study examines the existence of any short-run and long-run relationship between economic growth and government expenditure in India over the period 1970-2012. Economic growth (Y_t) and government expenditure (E_t) are found to be stationary variables and both the series are $I(0)$. There exists a long-run relationship between economic growth and government expenditure. The study with VAR model confirms no causal relationship supporting the Wagner Hypothesis and the Keynesian Hypothesis. The Impulse Response Functions indicate that govt. expenditure shocks were short-lived for economic growth and economic growth shocks were short-lived for govt. expenditure. Variance Decomposition study firmly confirms that govt. expenditure shocks were not important for short-run variations in economic growth (Keynesian Hypothesis) and economic growth shocks were also not important for raising govt. expenditure (Wagner Hypothesis).

Key Words: Wagner Hypothesis, Keynesian Hypothesis, Cointegration, Impulse Response Function, VAR, Variance Decomposition.

INTRODUCTION

In growth theory there is a basic question whether increasing government expenditure promotes economic growth. From empirical evidence it is found that government expenditure on health and education raises labor productivity and development of infrastructure by government expenditure increases private investment. Private investment is one of the essential factors for economic growth. But on the other hand, higher government expenditure at a cost of increased taxes or borrowing may create obstruction for economic activity.

During the world economic recession of the 1930s, the government sectors of both developed and developing economies played a vital role in stimulating economic growth and as a whole economic

development in compliance with Keynes advice. At that time for the improvement of economic growth many countries had taken shelter of higher government expenditures and reducing taxes. These empirical achievements and the Keynesian thought generated considerable interest among economists and policy makers for using government expenditure as a policy for economic development. In 1930s John Maynard Keynes argued that government spending boosted growth by injecting purchasing capacity into the economy. According to Keynes, government could reverse economic downturns by borrowing money from the private sector and then returning the money to the private sector through various spending programs.

Financing of government expenditure can be growth retarding. Government expenditure through budget

deficit is bad. High budget deficit means demand for loanable fund is more than supply of loanable fund. Since demand for loanable fund is more than supply of loanable fund, it allegedly lead to higher interest rates. Higher interest rates are believed to reduce investment while lower investment leads to lower productivity resulting in productivity means lower growth.

Therefore, there are two important theories regarding the relationship between public expenditure and economic growth. One is Wagner's hypothesis (Wagner's Law) and another is Keynesian hypothesis. Wagner hypothesis focuses on public expenditure as an endogenous factor. Here public expenditure is driven by the growth of national income. On the other hand according to the Keynesian hypothesis economic growth occurs as a result of rising public expenditure. Here government expenditure is an exogenous variable. Therefore, as far Keynesian Hypothesis is concerned there is causality between economic growth and government expenditure and causality runs from government expenditure to economic growth. On the other hand as far Wagner hypothesis is concerned, the causality runs from economic growth to government expenditure.

Keynesian hypothesis and Wagner hypothesis are basically different. There are a number of research works on the relationship between government expenditure and economic growth, but there is no clear consensus among these studies on the exact relationship between these two variables concerned.

Economic theory does not automatically generate strong conclusions about the impact of government expenditure on economic performance. There is a consensus among economists that there are some circumstances in which

lower levels of government expenditure would enhance economic growth and there are some other circumstances in which higher levels of government spending would be desirable.

It is natural that, if government expenditure is zero, economic growth will be very little because infrastructural development would be very difficult in absence of government expenditure. The following figure depicts the economics of government spending. When there is no government spending economic growth is zero, but it jumps dramatically as core functions of government are financed.

Insert figure The Rahn Curve: Economy Shrinks When Government Grows Too Large

Economists will generally agree that government spending becomes a burden at some point. At that point the cost of government exceeds the benefit. The downward sloping portion of the curve in the above figure can exist for the number of reasons. For example, the extraction cost, the displacement cost, the negative multiplier cost, the behavioral subsidy cost, the behavioral penalty cost, the market distortion cost, the inefficiency cost, the stagnation cost.

The economics of government spending is not limited to cost-benefit analysis. There is also the Keynesian debate. "Pump priming" concept of Keynes did not necessarily mean that government should be big. Instead, Keynesian theory asserted that government spending (deficit spending) could provide short-term stimulus to help end a recession. Keynesians even argued that policymakers should be prepared to reduce government expenditure once the economy recovered in order to prevent inflation [there is a tradeoff between inflation and unemployment (the Phillips Curve)]. Some economist argue that budget deficit is bad

because it reduces investment. It is well known to us that for long run economic growth higher level of investment is necessary.

LITERATURE SURVEY

Wagner's hypothesis and Keynesian hypothesis are the two important theories regarding the relationship between public expenditure and economic growth. First focuses on effects of economic growth on government expenditure, and the second focuses on effects of government expenditures on economic progress.

Landau (1983), using data for developing countries over 1960-80, examined the relationship between the growth rate of real per capita GDP and the share of government expenditure in GDP. He found that government consumption expenditure has negative effects on growth of per capita output, while the other types of government expenditure have little effect on output growth.

Baum and Lin (1993) examined the impact of three different types of government expenditure (defense, welfare and education) on growth rate of per capita GDP using cross section data developed and developing countries over 1975-1985. The finding of the research was that the growth rate of education and defense expenditures has positive effects on growth rate but the growth rate of welfare expenditures has an insignificant negative effect on economic growth.

Deverajan *et al.* (1993), using a sample of 14 OECD countries found that government expenditure on health care, transportation and communication has positive effects on economic growth but expenditure on education and defense fail to produce such a positive impact.

Albala, Bertrand and Mamatzakis (2001) using countries South Africa and

Chile found that positive growth impacts of "productive" government expenditure on infrastructure.

Ghali (1997), using VAR and Ganger causality analysis as well as annual data for 1960-96, found no evidence that government expenditure increased output growth.

Kireyev (1998), using annual data (1969-97), found a significant and positive relationship between government expenditure and growth.

Albatel (2000), using data over 1964-95, found that the government plays an important role in promoting growth.

John L. and Vamvoukas G. using data on Greece, UK and Ireland, found that (i) government size Granger causes economic growth in the short run in all countries concerned and in the long run for Ireland and the UK; (ii) economic growth granger causes increases in the relative size of government in Greece, and, when inflation is included, in the UK.

Landau (1983) found that an increase in government expenditure's share in real GDP reduces the growth rate of per capita real GDP.

Barro (1989) found a significant negative relationship between government consumption share and the growth of real per capita GDP.

Niloy *et al.* (2003) examined growth effects of government expenditure for a panel of thirty developing countries over 1970-80 and found positive and significant relation government capital expenditure and economic growth.

Romer, (1990) found that total government expenditures seem to have a negative effect on economic growth.

Alexander, (1990) found that total government expenditures seem to have a negative effect on economic growth.

HYPOTHESIS

Folster and Henrekson, (1999) found that total government expenditures seem to have a negative effect on economic growth.

The relation between government expenditure and economic growth is really complex and economists differ among themselves on this issue. There are five schools of thought regarding the relationship between government expenditure and income growth. These are as follows:

(i) Government expenditure –Led Economic Growth Hypothesis: It is argued that government expenditure leads to income growth. Consequently, this hypothesis indicates *Uni-directional Granger Causality running from government expenditure to income growth*.

(ii) Economic Growth -led Government expenditure: This view postulates that income growth is the main source of Government expenditure in any economy. Consequently, *there exists Uni-directional Granger Causality running from income growth to Government expenditure*.

(iii) Economic Growth -Led Government expenditure Led Economic Growth: This hypothesis holds that, there exists a '*Two-Way Linkage*' between economic growth and government expenditure. In such relationship the income growth occurs initially and then it leads to government expenditure. Government expenditure subsequently leads to further growth in income. Thus there exists a *Bi-directional Granger Causality between income growth and government expenditure where initial causal impulse comes from income growth*.

(iv) Government expenditure -Led Income Growth-Led Government expenditure: This hypothesis states that there exists a '*Two-Way Linkage*' between Government expenditure and income

growth. In such relationship Government expenditure occurs initially and then it leads to income growth. Income growth, in turn, causes further growth in Government expenditure. Thus, *there exists a 'Bi-directional Granger Causality between Government expenditure and income growth where initial causal impulse comes from Government expenditure*.

(v) Independence: This hypothesis holds that *there exists no Granger Causality between Government expenditure and economic growth*. Consequently, these variables are *independent* of each other.

This paper attempts to investigate the validity of the above five hypothesis based on the theoretical arguments presented above.

OBJECTIVE OF THE STUDY

Under this controversial theoretical framework, I seek to enquire empirically into the relationship between economic growth and government expenditure in the member country (India) of the SAARC. Government expenditure constitutes a noticeable economic performance for this country. This perspective of the economy fascinates the imagination of researchers to enquire into the contribution of government expenditure into its economic growth and vice versa. I, therefore, seek to study the relation between economic growth and government expenditure in the economy of India.

The Data

The relationship between Economic growth and Government expenditure in the economy of India is being studied for the period 1970-2012. The study involves the use of annual dataset for GDP and Government expenditure in those countries. Wholesale Price Index (WPI) of 2005 AD is used with 2005 as the base period (2005=100). The data have been

taken from various issues of the IFS (*International Financial Statistics*).

Organization Of The Paper

Section II is devoted to the study of stationarity, cointegration. Section III deals with dynamic relationship through the estimation of Vector Autoregression Model. Section IV presents the Intervention Analysis through Impulse Response Functions and Variance Decomposition. Section V presents Concluding Remarks.

Section II

Study Of Stationarity And Cointegration

Stationary:

Results of the Augmented Dickey-Fuller Tests for the presence of Unit roots in the series for GDP (Y_t) and Government Expenditure (E_t) are being presented through the Table-1 and the Table-2 in the appendix.

It is observed from the Table-1 that

- (i) all the variables at level are free from unit roots. Consequently, the series are stationary at levels.
- (ii) the variables do not have any deterministic trend.
- (iii) GDP (Y_t) and Government Expenditure (E_t) series are $I(0)$.

Table-2 also shows that the null-hypothesis of 'unit root', because of structural shift under PP Test.

- (i) has been rejected in case of Income Growth at 1% level.
- (ii) has also been rejected in case of Govt. Expenditure series at 1% level.

Therefore, it is found that the Augmented Dickey-Fuller Tests and Phillips-Perron Unit Root Tests for the presence of Unit roots in the series for GDP (Y_t) and Government Expenditure (E_t) indicate that Economic growth(Y_t) and Govt. Spending

(E_t) series are stationary at level. Consequently, Y_t and E_t are $I(0)$.

Correlogram Analysis For Stationarity:

The stationarity of the variables has further been examined through the study of their correlograms. Figures 1-2 present (in the appendix) the correlograms of the variables concerned.

Findings From The Correlograms:

It is observed from the Figures 1-2 that

- (i) the corresponding ACFs are free from any dying out pattern of spikes.
- (ii) the corresponding PACFs are marked by the absence of any singularly significant spike at lag one.

Consequently, these correlograms testify for the stationarity of the series Economic growth (Y_t) or GDP growth and Govt. Expenditure (E_t).

Study Of Cointegration Between Economic Growth And Govt. Expenditure:

Economic growth (Y_t) and Govt. Expenditure (E_t) are stationary variables and both the series are $I(0)$. Consequently, they are cointegrated¹ insert foot note i.e., a long-run relationship must exist between $\{Y_t\}$ and $\{E_t\}$. This means that Y_t must be in a long-run relation with E_t . Similarly, E_t must maintain a long-run relationship with Y_t .

Johansen Cointegration Test is presented in the table-3 in the appendix

Findings From The Johansen Cointegration Test:

Trace test indicates two cointegrating eqn(s) at the 0.05 level and Max-eigenvalue test indicates two cointegrating eqn(s) at the 0.05 level. This means that Economic Growth (Y_t) must be in a long-run relation with Govt. Spending

(E_t). Similarly, E_t must maintain a long-run relationship with Y_t .

Section III

Study Of Long-Run Causal Relation: Vector Autoregression Model

Vector Autoregression Model:

In order to find the long-run dynamic relationship between economic growth (Y_t) and govt. expenditure (E_t) in the economy of India, we cannot make any *a priori* assumption of endogeneity and exogeneity of variables. For this purpose, **Vector Autoregressive Model (VAR)** can be applied. This model treats all variables symmetrically without making reference to the issue of dependence versus independence. A **VAR** model also offers a scope for *Intervention Analysis* through the study of *Impulse Response Functions* for the endogenous variables in the model. *Variance Decomposition* allows us to study the 'Variance Decompositions' for these variables and thus help us understand the interrelationships among the variables concerned. We therefore, seek to develop a **VAR** model for economic growth and govt. spending for the economy of India in this section of the article.

The VAR Model

The Vector Autoregression (VAR) Model for economic growth (Y_t) and govt. expenditure (E_t) for the economy of India consists of the equations (1) and (2)

$$Y_t = \alpha_1 + \sum_{i=1}^k \beta_{1i} Y_{t-i} + \sum_{i=1}^k \gamma_{1i} E_{t-i} + u_{1t} \quad (1)$$

$$E_t = \alpha_2 + \sum_{i=1}^k \beta_{2i} E_{t-i} + \sum_{i=1}^k \gamma_{2i} Y_{t-i} + u_{2t} \quad (2)$$

Selection of Lag Length:

Before estimating VAR, the decision regarding the selection of maximum lag length (k) is important. The decision of the lag length is important to avoid spurious causality (or spurious

absence of causality). **We, therefore, have followed Enders' Method and started with eight lags.** We have then reduced the lags by one and carried out the test, given that the estimated t-statistics for the coefficient involved is insignificant. In the 2 lag specification a few parameters have been found statistically significant. **We, therefore, have chosen four (4) lags for each endogenous variables in their Autoregressive and Distributed Lag Structures in the estimable VAR model.**

Features Of The VAR Model:

The VAR model consisting of equations (1) and (2) requires that

- (i) Y_t and E_t be stationary, and
- (ii) u_{1t} and u_{2t} be white-noise terms such that

$$u_{1t} \sim \text{iidN}(0, \sigma_{u1}^2), \text{ and } u_{2t} \sim \text{iidN}(0, \sigma_{u1}^2).$$

In this model both Y_t and E_t are stationary at level such that $Y_t \sim I(0)$ and $E_t \sim I(0)$. Consequently, the first requirement is satisfied.

However, the properties of u_{1t} and u_{2t} need to be studied. This will enable us to find if u_{1t} and u_{2t} are really white noise terms.

The Estimable VAR Model:

The estimable VAR model, therefore, consists of the following equations.

$$Y_t = \alpha_1 + \beta_{11} Y_{t-1} + \beta_{12} Y_{t-2} + \beta_{13} Y_{t-3} + \beta_{14} Y_{t-4} + \gamma_{11} E_{t-1} + \gamma_{12} E_{t-2} + \gamma_{13} E_{t-3} + \gamma_{14} E_{t-4} + u_{1t} \quad (3)$$

$$E_t = \alpha_2 + \beta_{21} E_{t-1} + \beta_{22} E_{t-2} + \beta_{23} E_{t-3} + \beta_{24} E_{t-4} + \gamma_{21} Y_{t-1} + \gamma_{22} Y_{t-2} + \gamma_{23} Y_{t-3} + \gamma_{24} Y_{t-4} + u_{2t} \quad (4)$$

Stability of the VAR model is confirmed by the table-3 and figure-3. Absolute value of the roots are less than unity and Figure-3 shows that the inverse roots of **AR Characteristic Polynomials** lie within the unit circle.

Results Of Estimation Of The VAR Model

The results of estimation of the VAR model consisting of equations (3) and (4) are given by the Table-4 in the appendix.

Stability of the Estimated VAR Model

The roots of the **Characteristic Polynomials** B(L) and A(L) are given by the Figure-3 in the appendix.

It is observed from the Figure-3 that

the inverse roots of AR characteristic polynomials lie within the unit circle.

These observations testify for the stability of the VAR model.

Serial Independence Of The VAR

Residuals (\hat{u}_{1t} And \hat{u}_{2t}):

The correlograms of the VAR residuals \hat{u}_{1t} and \hat{u}_{2t} are being presented through the Figures 4 and 5 in the appendix.

Observations testify for the fact that \hat{u}_{1t}

and \hat{u}_{2t} residuals are free from auto-correlations of any order.

Economic Interpretations Of The Findings:

The economic significance of these findings are as follows.

- (i) $\hat{\gamma}_{11}, \hat{\gamma}_{12}, \hat{\gamma}_{13}$ and $\hat{\gamma}_{14}$ being insignificant (even at 10% level) indicates that $E_{t-1}, E_{t-2}, E_{t-3}$ and E_{t-4} did not affect Y_t . Consequently, E_t , the govt. expenditure did not *Granger cause* Y_t , the economic growth in the economy of India over the period of study.

Economic Interpretations Of The Findings:

The economic significance of these findings is as follows.

- (i) $\hat{\gamma}_{21}, \hat{\gamma}_{22}, \hat{\gamma}_{23}$ and $\hat{\gamma}_{24}$ being insignificant (even at 10% level), in the presence of E_{t-i} ($i=1,2$) in the vector of regressors for E_t , implies that economic growth did not *Granger cause* govt. spending in the economy of India over the period of study.

Overview Of Findings:

The findings in this section indicate that in the economy of India over the period of study

- (i) *govt. expenditure did not Granger Cause economic growth.*
(ii) *economic growth did not Granger Cause govt. expenditure.*

Consequently, the economy of India was marked by the absence of 'no-causal relationship' between economic growth and govt. expenditure over the period 1970-2012.

Section IV

Intervention Analysis Through Impulse Response Functions And Variance Decomposition

Intervention Analysis Through Impulse Response Functions:

VAR model represents a 'Simultaneous Equation System' where for each endogenous variable one equation is specified. Again each equation contains the autoregressive structure of the endogenous variable along with distributed lag structures of other endogenous variables. Consequently, a shock to the 'i th' variable not only directly affects the 'i th' variable itself but the shock is also transmitted to all other endogenous variables through the dynamic (lag) structure of the VAR.

An *Impulse Response Function* traces the effects of a onetime shock to one of the innovations on current and future values of the endogenous variables. In other words, *Impulse Response Function* traces the response of a variable through time to an unanticipated change in 'itself' or other interrelated variables. Therefore, the *Impulse Response Function* can be used in any VAR system to describe the dynamic behaviors of the whole system with respect to shocks in the residuals of the time series.

The VAR model estimated in the previous section contains two endogenous variables, namely, the economic growth (Y_t) and govt. expenditure (E_t). I, therefore, seek to study in this chapter the dynamic response of Y_t and E_t across different time periods in response to shocks transmitted through channels of different endogenous variables concerned.

Graphical Presentation Of Impulse Response Functions

The relevant *Impulse Response Functions* of economic growth in response to impulses, transmitted through the channels of economic growth and govt. expenditure are being presented through Figures 6 and 7 in the appendix. Again of govt. expenditure in response to impulses, transmitted through the channels of economic growth and govt. expenditure are being presented through the Figures 8 and 9 in the appendix.

Findings From The Study With Impulse Response Functions

It is, therefore, observed from that

- (i) shocks, transmitted through economic growth, failed to change the equilibrium base of govt. expenditure. Consequently, economic growth shocks were short-lived for govt. expenditure.

- (ii) shocks, transmitted through the channels of economic growth and govt. expenditure, failed to change the equilibrium base of govt. expenditure. Consequently, both these shocks were short-lived for govt. expenditure.

Intervention Analysis Through The Study Of Variance Decompositions

It has been seen how shocks to one endogenous variable may affect the other endogenous variables in the VAR model through *Impulse Response Functions*. In this section, with the help of *Variance Decomposition* we seek to separate the variations in an endogenous variable into some component shocks.

Variance Decomposition Of Economic Growth And Govt. Expenditure

The percentile decompositions of variance of economic growth as well as govt. expenditure representing contributions of shocks, transmitted through the channels of two endogenous variables are given by the Table-5 in the appendix.

FINDINGS

It, therefore, appears that

- (i) economic growth shocks were more important than govt. expenditure shocks in accounting for short-run variations in economic growth.
- (ii) govt. expenditure shocks were more important than economic growth shocks in accounting for short-run variations in govt. expenditure.

These two observations also testify for the 'No Causality' between economic growth and govt. expenditure in the economy of India over the period 1970-2012.

In *Variance Decomposition* analysis we have 20 period ahead forecasts.

Consequently, we get forecast error variances for next twenty years. Economic growth shocks have been found to account for decreasing proportion of such variances with the passage of time. By 2032 economic growth shocks would account for 13% of total variations in *govt. expenditure*. This hints at no importance of economic growth ensuring govt. expenditure in the economy of India at present and in future. By 2032 govt. expenditure shocks would account for 9% of total variations in *economic growth*. This also hints at no importance of govt. expenditure ensuring economic growth in the economy of India at present and in future.

CONCLUSION

There has been a growing interest in the field of applied economics in testing the relationship between government expenditure and economic growth. Most of the recent research in this area has focused on the acceptability and validity of the Wagner's law or Keynesian hypothesis. In developing countries not much empirical work has been done on the links among economic growth and government expenditure.

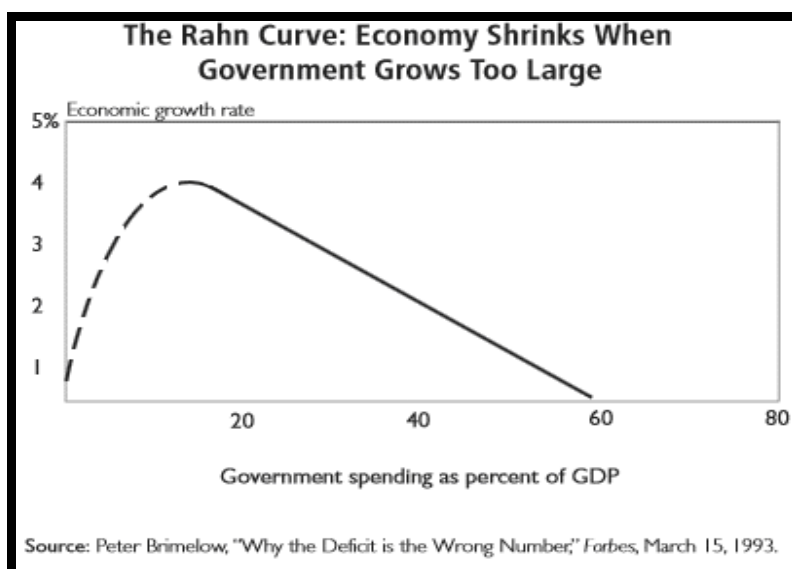
As far as the VAR results are concerned there is no causal relationship between economic growth and government expenditure and vice versa. Government expenditure does not granger cause economic growth. This does not support the conventional thought i.e., Keynesian hypothesis. It does not work in favor of Wagner's hypothesis. By 2032 economic growth shocks would account for 13% of total variations in *govt. expenditure*. This hints at no importance of economic growth ensuring govt. expenditure in the economy of India at present and in future. By 2032 govt. expenditure shocks would account for 9% of total variations in *economic growth*. This also hints at no importance of govt. expenditure ensuring economic growth in

the economy of India at present and in future.

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APPENDIX

Table-1

Results Of Augmented Dickey-Fuller Tests For Unit Root In GDP(Y_t) And Government Expenditure (E_t)

Variable	Exogenous	ADF Test Statistic	Prob.* value	Lag length	Mackinnon Critical Value		
					1%	5%	10%
Income Growth (D_t) at level	Constant	-5.753565	0.000	0	-3.600987	-2.935001	-2.605836
Income Growth (D_t) at level	Constant, Linear Trend	-7.112777	0.0000	0	-4.198503	-3.523623	-3.192902
Govt.Expenditure (E_t)	Constant	-6.988585	0.0000	0	-3.60098	-2.935001	-2.605836
Govt.Expenditure (E_t)	Constant, Linear Trend	-7.196276	0.0000	0	-4.19850	-3.523623	-3.192902

Table-2

Results Of Phillips-Perron Tests For Unit Root In GDP (Y_t) And Govt. Expenditure (E_t)

Variable	Exogenous	P-P Test statistic	Prob.* value	Band with	Mackinnon Critical Value		
					1%	5%	10%
Income Growth (D_t) at level	Constant	-5.76173	0.000	3	-3.60098	-2.93500	-2.60583
Income Growth (D_t) at level	Constant, Linear Trend	-8.196401	0.0000	6	-4.19850	-3.523623	-3.192902
Govt.Expenditure (E_t)	Constant	-6.989780	0.0000	1	-3.600987	-2.935001	-2.605836
Govt.Expenditure (E_t)	Constant, Linear Trend	-7.506030	0.0000	5	-4.198503	-3.523623	-3.192902

Figure – 1
Correlogram Analysis for GDP
(Y_t) at level

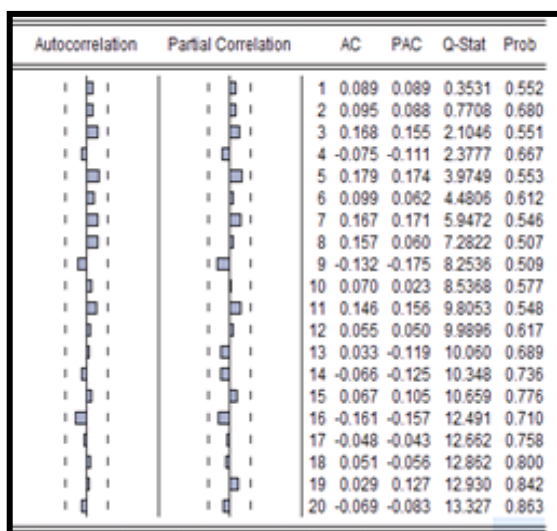


Figure – 2
Correlogram Analysis for GE
(E_t) at level

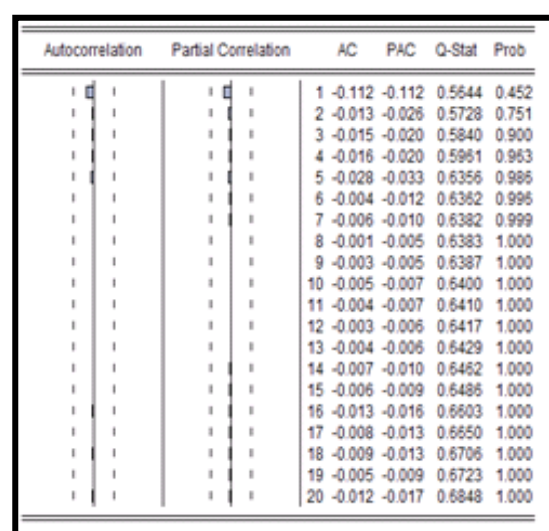


Table-3
Johansen Cointegration Test

Series: GDP GE				
Lags interval (in first differences): 1 to 1				
Unrestricted Cointegration Rank Test (Trace)				
Hypothesized		Trace	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.441811	37.74940	15.49471	0.0000
At most 1 *	0.302797	14.42712	3.841466	0.0001
Trace test indicates 2 cointegrating eqn(s) at the 0.05 level				
* denotes rejection of the hypothesis at the 0.05 level				
**MacKinnon-Haug-Michelis (1999) p-values				
Unrestricted Cointegration Rank Test (Maximum Eigenvalue)				
Hypothesized		Max-Eigen	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.441811	23.32228	14.26460	0.0014
At most 1 *	0.302797	14.42712	3.841466	0.0001
Max-eigenvalue test indicates 2 cointegrating eqn(s) at the 0.05 level				
* denotes rejection of the hypothesis at the 0.05 level				
**MacKinnon-Haug-Michelis (1999) p-values				

Table-4
Results Of Estimations Of Equations (3) And (4)

Dependent Variable	Independent Variable	Coefficients	Standard errors	't' Statistics
Y _t	Constant(α)	6.368632	(1.87591)	[3.39495]
	Y _{t-1}	-0.064680	(0.18627)	[-0.34724]
	Y _{t-2}	0.010795	(0.17640)	[0.06120]
	Y _{t-3}	0.082050	(0.17753)	[0.46217]
	Y _{t-4}	-0.173305	(0.18095)	[-0.95776]
	E _{t-1}	-0.125905	(0.33725)	[-0.37333]
	E _{t-2}	0.240188	(0.34384)	[0.69855]
	E _{t-3}	0.603132	(0.33939)	[1.77713]
	E _{t-4}	0.244690	(0.34149)	[0.71654]
R ² = 0.152864 , F-stat =0.654125, Log likelihood =-91.27194 , AIC = 5.277470				
E _t	Constant(α')	-1.769817	(1.04617)	[-1.69171]
	E _{t-1}	-0.275084	(0.18808)	[-1.46259]
	E _{t-2}	-0.157520	(0.19175)	[-0.82147]
	E _{t-3}	-0.128318	(0.18927)	[-0.67796]
	E _{t-4}	-0.148348	(0.19044)	[-0.77896]
	Y _{t-1}	0.109701	(0.10388)	[1.05603]
	Y _{t-2}	0.116793	(0.09837)	[1.18725]
	Y _{t-3}	0.092224	(0.09901)	[0.93148]
	Y _{t-4}	0.089078	(0.10091)	[0.88272]
R ² = 0.147254 , F-stat = 0.625975 , Log likelihood =-69.08155 , AIC =4.109555				

Figure-3
VAR Stability Condition Check

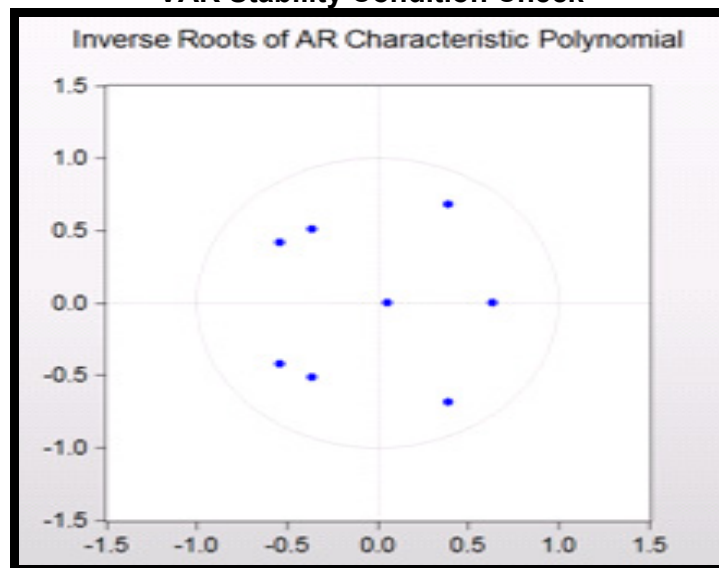


Figure – 4
Correlogram of Residuals \hat{u}_{1t}

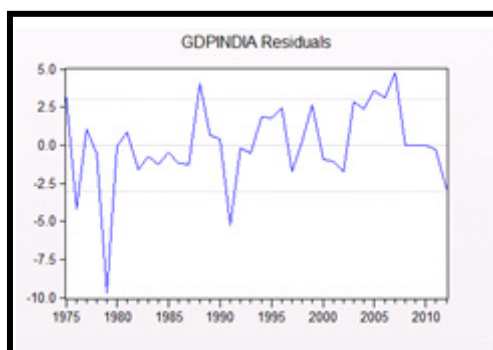
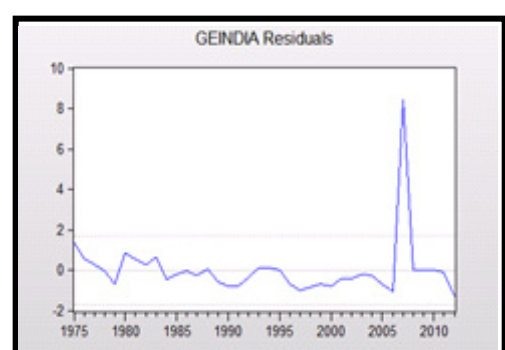


Figure – 5
Correlogram of Residuals \hat{u}_{2t}



Response To Cholesky One SD Innovations $\pm 2SE$

Figure – 6

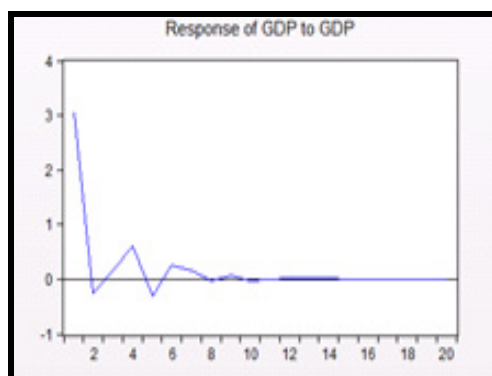


Figure – 7

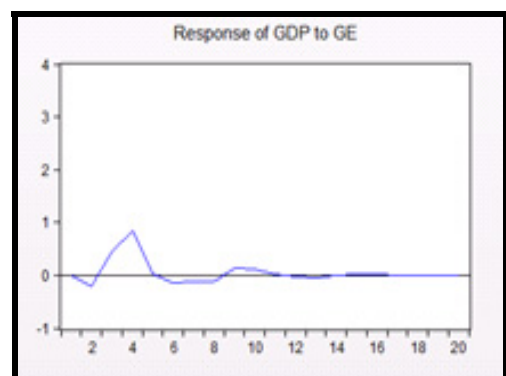


Figure – 8

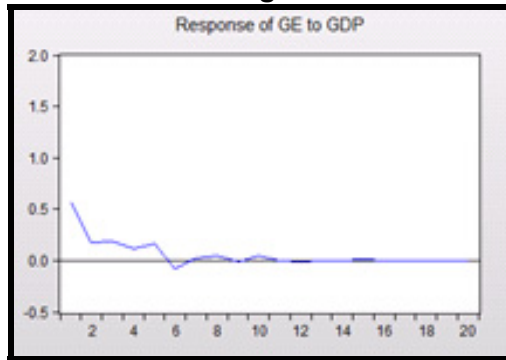


Figure – 9

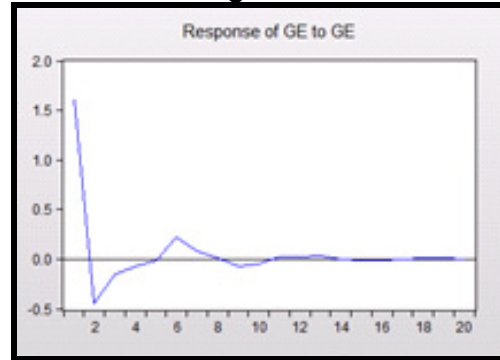


Table-5
Variance Decomposition Of Economic Growth And Govt. Expenditure

Variance Decomposition of Economic growth				Variance Decomposition of Govt. expenditure			
Period	S.E	Economic Growth	Govt. Expenditure	Period	S.E	Economic Growth	Govt. Expenditure
1	3.059035	100.0000	0.000000	1	1.705984	11.05500	88.94500
2	3.077538	99.56674	0.433259	2	1.771582	11.27859	88.72141
3	3.115355	97.44157	2.558432	3	1.788271	12.18604	87.81396
4	3.284776	90.97359	9.026411	4	1.793298	12.53340	87.46660
5	3.299644	91.04560	8.954395	5	1.800793	13.25630	86.74370
6	3.312051	90.94274	9.057256	6	1.817019	13.25092	86.74908
7	3.318089	90.86642	9.133580	7	1.818807	13.23304	86.76696
8	3.320367	90.75191	9.248094	8	1.819333	13.28245	86.71755
9	3.324019	90.59027	9.409728	9	1.821024	13.26577	86.73423
10	3.326280	90.47722	9.522785	10	1.822225	13.32208	86.67792
11	3.326316	90.47598	9.524020	11	1.822345	13.32067	86.67933
12	3.326504	90.47113	9.528868	12	1.822608	13.32201	86.67799
13	3.327010	90.44476	9.555243	13	1.822832	13.31934	86.68066
14	3.327046	90.44385	9.556150	14	1.822851	13.32008	86.67992
15	3.327145	90.43863	9.561366	15	1.822960	13.31999	86.68001
16	3.327228	90.43440	9.565595	16	1.822981	13.32025	86.67975
17	3.327238	90.43393	9.566067	17	1.822982	13.32029	86.67971
18	3.327256	90.43297	9.567034	18	1.823005	13.31997	86.68003
19	3.327280	90.43183	9.568170	19	1.823013	13.31998	86.68002
20	3.327281	90.43178	9.568219	20	1.823014	13.31997	86.68003

Foot note :

1. According to Engle and Granger (1987), let $\{Y_t\}$ and $\{X_t\}$ be stationary such that $Y_t \sim I(0)$ and $X_t \sim I(0)$. Consequently, $d=0$ and there cannot be any $b>0$ so that $Y_t, X_t \sim CI(d,b)$.

Under this situation, a long run relationship between Y_t and X_t does already exist and the classical regression model is appropriate.

Financial Decision Making & Investor Behaviour

Mr. Amit Mirji
Research Scholar, Jain University,
Bengaluru, India
email: amitmijr@gmail.com

Dr. Prashanth C.
HOD, Dept of Management Studies,
SDM College of Engg & Technology,
Dharwad, India

Abstract

Human beings are sometime biased both intentionally and unintentionally in their routine life decisions. Psychology is an art in which we study the human behaviour, nature and attitude and how human deviates from rational decision. Decisions in the financial arena are especially complex and are complicated by a host of outside forces. The behaviours sit deep within our psyche. They may lead us to unhelpful decisions. As a fundamental part of human nature, these behaviours affect all types of investors, both professional and private. After challenging the rational theories, behavioural financial knowledge were appeared for explaining some of individual behaviours and investors. The behavioural financial knowledge does not justify the events and behaviours rationally but study the investor's behaviors in the view of feelings and will explain it. Thus, by avoiding behavioural biases investors can more readily reach impartial decisions based on available data and logical processes. In this paper, we reviewed eight common behavioural biases, and then concentrate on two types of investors – overconfident investors and status quo investors.

“The investor's chief problem – even his worst enemy – is likely to be himself.”
Benjamin Graham

INTRODUCTION

Behavioural finance analyses the ways that people make financial decisions. Besides the impact on financial markets, this also has relevance to corporate decision making, investor behaviour, and personal financial planning. Our psychological biases and heuristics have real financial effects, whether we are corporate manager, professional investors, or personal financial planners. When we understand these human psychological phenomena and biases, we can make better investment decisions ourselves, and better understand the behaviours of others and of markets.

Most people know that emotions affect investment decisions. People in the world of investments commonly talk about the role greed and fear play in driving stock markets. Behavioural finance extends this analysis to the role of biases in decision making, such as the use of simple rules of thumb for making complex investment

decisions. In other words, behavioural finance uses psychology to understand how people make investing decisions.

Human nature usually serves us well in coping with day-to-day life. But it can also get in the way of achieving success in long-term activities, such as saving and investing. There is no 'cure' for human nature, but greater awareness of biases can help you, and your adviser, avoid major pitfalls.

Psychological research has documented a range of biases that can affect decision making. Many of these also affect decisions about money and investing. These biases sit deep within our psyche and as fundamental parts of human nature, they affect all types of investors, both professional and private. Understanding them can help you and your adviser work together to learn to work around them.

Why do investors behave as they do? Investor behaviour often deviates from

logic and reason. Emotional processes, mental mistakes, and individual personality traits complicate investment decisions. Thus, investing is more than just analysing numbers and making decisions to buy and sell various assets and securities. A large part of investing involves individual behaviour. Ignoring or failing to grasp this concept can have a detrimental influence on portfolio performance.

Behavioural biases in investing encompass many types. For example, cognitive biases refer to tendencies to think and act in certain ways. A cognitive bias can be viewed as a rule of thumb or heuristic, which can lead to systematic deviations from a standard of rationality or good judgment. Some controversy still exists about whether some of these biases are truly irrational or whether they result in useful attitudes or behaviour. Other biases are more emotional in nature. An emotional bias is one that results in taking action based on feelings instead of facts. Given that some overlap exists between cognitive and emotional biases, we simply call them behavioural biases. An important aspect of avoiding such biases is to become aware of them. Thus, by avoiding behavioural biases investors can more readily reach impartial decisions based on available data and logical processes.

Proponents of efficient market theory believe that all known information is priced into a stock or other investment product. The advent of algorithmic trading makes that process almost instant, according to EMT theorists. This was seen on April 23, 2013, when a fake tweet that claimed the White House was bombed and President Obama injured immediately sent markets crashing. Although the market recovered within four minutes, this incident exposed the network of supercomputers that constantly scan headlines looking for keywords that are programmed to sell

equity positions when the right words are flagged.

This would seem to prove that EMT is true - especially now that non-human traders dominate the market. However, others say, "not so." They argue that the reason long-term investors like Warren Buffett, as well as high frequency traders, can profit is because of market inefficiencies. These inefficiencies are natural because the markets are comprised of humans or computers programmed by humans.

Regardless of how disciplined, humans often trade with behavioural biases that cause them to act on emotion. This is the basis of behavioural finance, a relatively new field of study that combines psychological theory with conventional economics. Behavioural finance predicts trading behaviour and is used as a basis for creating more efficient trading strategies. A University of California study found strong evidence that investors have behaviour biases that often affect investing decisions more than empirical data. Here, we highlight four of those biases that are common among retail traders who trade within their individual brokerage accounts.

LITERATURE REVIEW

Babajida and Adetiloye (2012) examined the effects of behaviour biases in performance of stock market in Nigeria of last twenty years and the variables they studied were overconfidence, loss aversion, framing, anchoring and status quo bias. The research has been conducted through administering a questionnaire by targeting 300 respondents. The Pearson product moment coefficient method was used to analyze the survey, this paper concluded that every investor must engage in the service of investor advisor that may reduce the personal biases of management decision process, also found that there is negative

relation between independent and dependent variables due to indirect involvement in trade activity.

Chira, Adams & Thornton(2008) studied how cognitive biases and heuristics make distortion in the decision making of the business students. In this paper student behavior was investigated through questionnaire that included 45 questions which were presented to limited graduate and undergraduate students of Jacksonville University in United States of America and design to check the behavior mistakes that they make during both financial and non-financial decision making. There were number of biases and heuristics found after getting the questionnaire but this paper focuses on overconfidence, excessive optimism, loss aversion, familiarity, sunk cost, illusion of control and confirmation biases. This paper found that generally student rationality is bounded in their decision making behavior, when they are asked to show driving ability and school performance they react overconfident and extremely optimistic on the other hand they are less optimistic about investment ability and athletic ability. **Poluch (2011)** analyzed the impact of overconfidence biases on different level of management and also that cognitive ability can explore the relationship between overconfidence biases and level of management. The managers of professional services organizations of South Africa used as sample. Online survey was conducted and some individuals were also personally approached and 30 managers were targeted at each level. This study concluded that middle managers has the least level of overconfidence due to difficulties faced by them and lower level managers feel more overconfidence due to unique and specific task required by middle managers. The upper level managers are more overconfident due to authority and self- independency.

Bogan and Just (2008) investigated the existence of confirmation bias in mergers particularly in the behavior of actual corporate executives. For this purpose he did experimental study at Ivy League University used frequency technique that included observations from 2333 respondent's i.e. 2034 students and 299 higher executives. This research concluded that higher executives were less likely to absorb the new information in contrast to non-executives. **Park and Konana et. al. (2010)** analyzed the impact of stock message boards on investors trading decision and investment performance. This research included 502 respondents from the largest message board operator in South Korea. The data set came from a field experiment on the participants of the largest online portal website "Naver stock message boards". The frequency technique used in this research paper and concluded that the investors exhibit the confirmation bias when they get information from the message board. According to **Thaler (1999)** mental accounting was used by the individual to managing, evaluating and financial activities in household. Investor of Indonesia tend to be neutral choosing a positive frame, if turn into negative frame then it would be risky. Indonesian investors mostly choose risky alternatives as compare to less risky. Mental accounting suggested to Indonesian investors, they are not able to incorporate financial information separately. **Seppala (2009)** examined the effects of three behavioral biases hindsight, overconfidence and self-attribution. This paper examined the effect of individual thinking style and cognitive ability on investment advisors. The survey was created by three separate groups of people, financial professionals, university students and employees of engineering company and also creates two-pronged structure for recollect and repeat the issues. Asset selection effect, sign of return

effect, drift of return effect and strange of views were used to analyze the hindsight biases. Commonly behavior biases were shown by people but it varies individual to individual due to experience and characteristics. They found that all people including investment advisors are suffered to hindsight bias. Findings on overconfidence indicated that people are confident and results on self- attribution bias also showed that people suffer from it. **Ofir and Wiener (2011)** investigated the performance of behavior biases among professional investors in the case of structured products investment for this purpose they picked a population of 573 subjects as a sample out of which 75% were investment advisors and 25% portfolio managers by using the logic probit model and linear probability model. The purpose of this study was to test the possible impact of each behavior bias on decisions pertaining to investments in structured products. They found that even professional investors make major systematic errors even they were not immune to behavioral biases. **Moore, Kurtzburg et. Al (1999)** examined the portfolio allocation decisions of 80 business students through a computer based investing simulation. The purpose of study was to better understand why investors spend so much time and money on actively managed mutual funds. They created a simulated market based on the real performance data of nine largest mutual funds in 1985 plus and S&P 500 index fund. An experiment was conducted for this and the data was organized into a computer based environment in which investors were able to invest a set amount of money over the 10-year period. Every participant could review the performance of its investment and could move it to new mutual fund. Investor could allocate its investment in 10 mutual funds. They concluded that investment decisions are susceptible to positive illusions and

overestimation of inter temporal consistency. These biases influence judgment, satisfaction and behavior in some consistent ways that can cost investor dearly. **Chen, A. Kim et. al (2010)** studied investment decision making in an emerging market. They found that Chinese investors make poor trading decisions suffering from three behavioral biases (i) They tend to sell stocks that have appreciated in prices, but not those that have depreciated (ii) they seem to be overconfident (iii) they seem to believe that past returns are the indicative of future returns. For this purpose they selected the Chinese market and investors. The dataset came from a brokerage firm of SHSE & SZSE in China. The complete dataset included 74960 investor accounts out of which 27779 were deleted due to some reasons leaving a final sample of 46969 individual investors and 212 institutional investors. They used regression relation for this purpose and concluded that Chinese investors make trading mistakes, they are reluctant to realize their losses, they tend to be overconfident and they exhibit a representativeness bias.

Charness and Gneezy (2003) studied basic intuition during decision: how investment split between risky lottery and assets having fix return by using three biases ambiguity aversion, illusion of control and myopic loss aversion. This paper replicated the previous result related to basic intuition and then tests the participants by paying small sum of money with line of bias (less ambiguity, more perceived control). The experimental research is conducted in University of California and graduates school of business in University of Chicago, which included 275 students, pages that having 10 treatments one of them is given to each student. This paper studied how portfolio choice depends on above biases and concluded the illusion of control was

eliminated when investors want to gain more control, in less or more control investors always face fractions if they invest in risky options. This paper discussed there was no influence on investment against the level of ambiguity but people always want to pay for less ambiguity. In loss aversion people less invested where more freedom to change their investment.

Bashir and Rasheed, et. Al (2013) investigated the influence of behavioral biases on investment decisions. The study was conducted through questionnaire. About 100 respondents were targeted out of them 55% were employees and the remaining students. They took female and male as dependent variable and confirmation biases, illusion of control, overconfidence, loss aversion as independent. The methodology used in this study was chi-square. The finding concluded that there is no significant difference between decision making regarding overconfidence bias of male and female.

San and Phuachan investigated whether loss aversion affects the investment or not...? Questionnaire and non-parametric tests were applied on the employees of Stock exchange of Thailand for this purpose. The results showed that SET's employees mostly use media reports for their decisions on stock trades. It was also discovered that some personal factors like gender, education and investment experience are related to loss aversion. The targeted sample of the study was 260. Non-parametric and Chi square test were used to find out the relationship. And significant relationship was found between them. **Yahyazadehfar and Shams et. al (2012)** investigated people who are subject to a Status quo bias (SQB) tend to choose an alternative that they have chosen previously even if that is not a right option for them anymore. The purpose of this

study was to investigate Status Quo Bias (SQB) in behavioural finance. SQB in this study was investigated using Ruenzi & Kempf model & Stata 10.0 software package from the companies listed in Tehran Stock Exchange from 2003-2010. The data was collected quarterly from investment companies. They concluded that people who are subject to a SQB tend to choose an alternative that was chosen previously even if it is not optimal choice anymore.

Shiller (1997) explained that investors place their investments into haphazardly separate mental compartments, and in different ways to the investment based on which compartment they are in. In the study researcher investigated that people of India save money for some specific purpose, like for children education and they borrow money from other people for other needs and desires of their lives like for buy car. Even the interest rate on the borrowed money was higher than the interest rate which they receive on saving for the education purpose of children's. Ultimately this bias of people effect their decision making process. **Thaler (1999)** reported that mental accounting was consisted on three components. The first section of mental accounting was how outcomes were experienced and perceived, how decisions were made and evaluation of decisions. The second components of mental accounting assigned the actions to specific accounts. It maintained the way how inflow and outflow of funds was done from each specific activity. The third component was concerned with the rate at which account were evaluated. Investors were can be balanced accounts on a daily, weekly, monthly, or yearly basis. Each component of mental accounting violated the economic principle of balance. Due to the mental accounting the decision of investors were influenced. **Kosnik (2007)** investigated the

confirmatory bias behaviour in tax policy and established effect on aggregate outputs. Primary data was collected from 284 participants through confidential survey in the United State. The Descriptive state and Frequency distribution technique was used to investigate the confirmatory bias behaviour within investor's decision making. The study concluded that the confirmatory bias affected the evidence related losses strongly as compared to evidence related gains

Behavioural Biases:

Our purpose is to briefly discuss investor behaviour, review eight common behavioural biases, and then concentrate on two types of investors – overconfident investors and status quo investors. Baker and Nofsinger (2002, 2010) and Baker and Ricciardi (2014) provide more detailed discussions of investor behaviour including behavioural biases.

Representativeness:

Representativeness results in investors labeling an investment as good or bad based on its recent performance. Consequently, they buy stocks after prices have risen expecting those increases to continue and ignore stocks when their prices are below their intrinsic values. Investors should have a clearly defined analytical process that they test and retest in order to refine and improve it over the long run.- Regret (loss) aversion. Regret aversion describes the emotion of regret experienced after making a choice that turns out to be either a bad or inferior choice. Investors who are influenced by anticipated regret are motivated to take less risk because this lessens the potential of poor outcomes. Regret aversion can explain investor reluctance to sell “losing” investments because it gives them feedback that they have made bad decisions. Disciplined investing requires

overcoming the reluctance to realise losses.

Disposition effect. Closely related to regret aversion is the disposition effect, which refers to the tendency of selling stocks that have appreciated in price since purchase (“winners”) too early and holding on to losing stocks (“losers”) too long. The disposition effect is harmful to investors because it can increase the capital gains taxes that investors pay and can reduce returns even before taxes. Following the advice of “cut your losses and let your profits run” enables investors to engage in disciplined investment management that can generate higher returns.

Familiarity bias:

This bias occurs when investors have a preference for familiar investments despite the seemingly obvious gains from diversification. Investors display a preference for local assets with which they are more familiar (local bias) as well portfolios tilted toward domestic securities (home bias). An implication of familiarity bias is that investors hold suboptimal portfolios. To overcome this bias, investors need to cast a wider net and expand their portfolio allocation decisions to gain wider diversification and risk reduction. Investing internationally helps to avoid familiarity bias.

Worry:

The act of worrying is an ordinary and unquestionably widespread human experience. Worry educes memories and visions of future episodes that alter an investor's judgment about personal finances. Based on survey evidence, Ricciardi (2011) finds that a much larger percentage of responding investors associate the word “worry” with common stocks (70 percent) as compared to bonds (10 percent). More anxiety about an investment increases its perceived risk and lowers the level of risk tolerance among

investors. In turn, this concern increases the likelihood that investors will not buy the security. To avoid this bias, investors should match their level of risk tolerance with an appropriate asset allocation strategy. As a quick test, if investors cannot sleep because of apprehension about their investments, they probably should have a more conservative and hence less risk investment portfolio.

Anchoring:

Anchoring is the tendency to hold on to a belief and then apply it as a subjective reference point for making future judgments. Anchoring occurs when an individual lets a specific piece of information control his cognitive decision-making process. People often base their decisions on the first source of information to which they are exposed (e.g., an initial purchase price of a stock) and have difficulty adjusting or changing their views to new information. Many investors still anchor on the financial crisis of 2007-2008 as a bad experience. As Ricciardi (2012) notes, this results in a higher degree of worry, which can cause them to underweight equities in their portfolios because they are excessively risk- and loss-averse. To avoid anchoring investors should consider a wide range of investment choices and not focus their financial decisions on a specific reference point of information.

Self-attribution bias:

Investors who suffer from self-attribution bias tend to attribute successful outcomes to their own actions and bad outcomes to external factors. They often exhibit this bias as a means of self-protection or self-enhancement. Investors afflicted with self-attribution bias may become overconfident, which can lead to overtrading and underperformance. Keeping track of personal mistakes and successes and developing accountability

mechanisms such as seeking constructive feedback from others can help investors gain awareness of self-attribution bias.

Trend-chasing bias:

Investors often chase past performance in the mistaken belief that historical returns predict future investment performance. Mutual funds take advantage of investors by increasing advertising when past performance is high to attract new investors. Research evidence demonstrates that investors do not benefit because performance typically fails to persist in the future. For example, using a sample of 1,020 domestic actively managed mutual funds, Soe and Luo (2012) show that using past performance as a strategy fails. For the five years ending March 2012, only about 5 percent of the funds maintained top-half performance rankings over five consecutive 12-month periods, while 6 percent were predicted to repeat by chance alone. To avoid this bias, investors should resist following the herd or jumping on the bandwagon. Although investors may feel better when investing with the crowd, such an investment strategy is unlikely to lead to superior long-term performance.

These eight behavioural biases are some fundamental issues investors might face at different periods during their lifetimes. Another important issue to consider is the amount of attention and time they should spend on their investment decisions because this might result in overconfident or status quo behaviour.

“By avoiding behavioural biases investors can more readily reach impartial decisions based on available data and logical processes.”

Two Different Types of Investors

Most investors can be classified as either overconfident or status quo investors. Overconfident investors tend to be overly active traders and status quo

investors display a lack of attention to managing their portfolios. The best advice is to find an appropriate balance between the two types of investors.

Overconfident Investors

Investors often exhibit overconfident behaviour resulting in severe consequences. They may display overconfidence in both the quality of their information and their ability to act on it. Ricciardi (2008) observes that people tend to overestimate their skills, abilities, and predictions for success. Research documents that overconfident behaviour is connected to excessive trading and results in poor investment returns. It can also lead to investors failing to appropriately diversify their portfolios.

Barber and Odean (2001) study the role of trading behaviour and gender bias for a sample of 35,000 individual accounts over a six-year period. Their findings reveal that males are not only more overconfident about their investing abilities but also trade more often than females. Compared to women, men also tend to sell their stocks at the incorrect time resulting in higher trading costs. Women generally trade less and apply a “buy and hold” approach resulting in lower trading costs.

To resist this bias, investors need to recognise the signs of overconfidence such as attributing a few short-term “wins” to superior knowledge, abilities or skills. Short-term performance may be more a stroke of luck than security selection or market timing skill. Individual investors are unlikely to have better information, intuition or analytical powers than others. In fact, the market has made fools out of many respected but overconfident investment professionals. Ultimately, individuals should be investing for the long-term rather than trading for the short-term.

“Status quo bias reveals the drawbacks of a simple “buy and hold” strategy for long-term investors. To resist this bias, investors should implement a disciplined investment strategy.”

- Status Quo Investors

Some Investors suffer from status quo bias in which they tend to default to the same judgment or accept the current situation. Changing this inertia requires strong motivation or incentives. Status quo bias occurs when investors fail to update their economic conditions despite potential gains from doing so. Instead, they stick to a position, such as holding a stock instead of selling it or otherwise act in a suboptimal manner. People also tend to defer savings for retirement or postpone opening a retirement account. After entering a 401k retirement plan, many employees do not actively manage or monitor their accounts.

Mitchell, Mottola, Utkus, and Yamaguchi (2006) examine more than 1,500 company 401(k) plans with 1.2 million client accounts. Their evidence reveals that most savers exhibit severe inertia or inattention bias. Over a two-year period, most do not execute any trades.

Status quo bias reveals the drawbacks of a simple “buy and hold” strategy for long-term investors. To resist this bias, investors should implement a disciplined investment strategy based on a portfolio approach. For example, they should match their level of risk tolerance with a predetermined asset allocation. This asset allocation strategy may encompass a diverse collection of mutual funds including stocks, bonds, and real estate both nationally and internationally. Another way to overcome status quo bias involves rebalancing a portfolio at least yearly. This helps to ensure that an investor’s risk tolerance profile matches his asset allocation throughout the life of the long-term portfolio. By using active asset

allocation investors tend to shift gains from risky assets (stocks) during bull markets to safer assets (bonds). During bear markets, they reallocate gains in the safer asset class (bonds) to the riskier asset class (stocks). Although this active asset allocation provides less upside gains during bull markets, it lessens downside risk during bear markets.

Concluding Remarks

Investors display many behaviour biases that influence their investment decision-making processes. We describe some common behavioural biases and suggest how to mitigate them. Although investors cannot avoid all biases, they can reduce their effects. This requires understanding one's behavioural biases, resisting the tendency to engage in such behaviours, and developing and following objective investment strategies and trading rules. Investors also need to invest for the long-term, identify their level of risk tolerance, determine an appropriate asset allocation strategy, and rebalance portfolios at least yearly. Because many experienced and seasoned investors have learned that success often comes from reining in emotions and overcoming their biases, they often avoid making the same mistakes as many new investors.

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Work Life Balance: An Empirical Study of Married Women Entrepreneurs in the City of Mangalore, Karnataka

Ms. P.V Sumitha

Assistant Professor

Department of Business Administration, AIMIT, St. Aloysius College, Beeri, Mangalore 575022, India

Mrs. Preethi Keerthi DSouza

Assistant Professor

Department of Post Graduate Studies and Research in Commerce, Mangalore University, Mangalore, India

Abstract

Commitment to married life brings in lot of responsibilities. In the Indian Context, this statement is still true. Women entrepreneurs face lot of challenges in society which is still a male dominated one. A married women entrepreneur faces still more challenges due to her commitment to family and at work and this is explored in this paper. Present paper gives insight on the topic Work Life Balance (WLB). It identifies and explores the areas that affect the working of married women entrepreneurs. The factors which come as a hindrance towards WLB are analyzed and the role played by family, friends and employees is explained.

In general all over the world the new generation women have overcome many negative notions and have proved themselves beyond doubt in all spheres of life including entrepreneurship. The women entrepreneurs of this study come from a humble background and are doing their best in this field. Thus in the study the researchers major focus was to develop and validate an appropriate tool to illustrate the WLB issues faced by married women entrepreneurs of Mangalore city. Hence the primary objective was to study if there exists any significance difference of opinion with regard to WLB issues of entrepreneurial women belonging to service and manufacturing sectors. The present research provides recommendations for women entrepreneurs and their counterparts to balance work and life.

Keywords: Women Entrepreneurs, Marriage, Work-Life Balance, Social Support Network.

INTRODUCTION

The existing scenario is that women form an important part of the labour force and the economic role played by them cannot be isolated from the framework of development. In past times only males were considered capable of being an entrepreneur but as the time and trend is changing women are also coming forward in entrepreneurship as like other sector with males. Women Entrepreneurs may be defined as the women or a group of women who initiate, organize and operate a business enterprise. Khanka (2002) referred to women entrepreneurs as those

who innovate, imitate or adopt a business activity. The Government of India has defined women entrepreneurs as an enterprise owned and controlled by women having a minimum financial interest of 51 per cent of the capital and giving at least 51 per cent of the employment generated in the enterprise to women (Das M, 2001). The transformation of the Indian society, in terms of increased educational status of women and varied aspirations for better living, necessitated a change in the life style of Indian women. Women have competed with man and successfully stood up with him in every walk of life and business is no exception to this. These

women leaders are assertive, persuasive and willing to take risks. They managed to survive and succeed in this cut throat competition with their hard work, diligence and perseverance. However, the rate of participation or rate of their inclusion in the business world is very low, in spite of its increase during the last ten years (Dixon, M. A., & Bruening, J, 2007). If we look at the developed countries we see that women are actively participative in the business and trade activities, including agriculture, without any social or other restrictions. But in India, there are still many social and cultural restrictions on women. Hence, women participation in entrepreneurial activities is less than the requirement of the fast growth of India.

WOMEN ENTREPRENEURSHIP IN INDIAN CONTEXT

Women entrepreneurship in India has come on the scene in the seventies but became more prominent in the eighties especially in the latter half of the decade. It is estimated that women entrepreneurs presently comprise about 10% of the total number of entrepreneurs in India, with the percentage growing every year. If the prevailing trends continue, it is likely that in another five years, women will comprise 20% of the entrepreneurial force (Saidapur et.al, 2012). Along with the changing paradigms, Indian society has witnessed some highly successful women entrepreneurs, such as Indra Nooyi (CEO of PepsiCo); Dr. Kiran Mazumdar-Shaw (Chairman & Managing Director, a leading Indian businesswoman and founder of the biotechnology firm Biocon); Anu Aga (Chairperson of Thermax Engineering); Sulajja Firodia Motwani (Joint Managing Director of Kinetic Engineering Ltd); Ekta Kapoor (Head of Balajji Telefilms); Priya Paul (Chairperson of Apperjay The Park Hotels chain of boutique hotels), Shehnaz Hussain (a world-renowned Indian herbal

beautician who owns a chain of beauty parlors) and so on.

In rural areas, female participation in employment outside the home is in fact viewed as slightly inappropriate, subtly wrong and definitely dangerous to chastity and womanly virtue (Dube & Palriwala, 1990). Because of these societal standards and beliefs, female entrepreneurship in India is a comparatively nascent phenomenon. Dileepkumar (2006) and Khanka (2010) have reported that Indian women have started becoming entrepreneurs in sizeable numbers only recently, partly due to the formation of various self-help groups (SHGs), support from NGOs, higher levels of education and economic liberalisation. However, despite all of this support for women, female entrepreneurs are still far from on par with men in India.

With the advent of media, women are aware of their own traits, rights and also the work situations. The challenges and opportunities provided to the women of digital era are growing rapidly that the job seekers are turning into job creators. Education of woman have no doubt given them immense confidence & encouragement to serve & discover new business avenues. However, the majority of female entrepreneurs, especially in the middle and lower middle classes as well as in rural areas, still find it difficult to simultaneously meet their entrepreneurial and familial demands so as to attain a proper work-life balance (Mathew & Panchanatham, 2009a). Even though the leadership potential of women is very high, this potential is hidden by social, economic and political constraints (Nelasco, 2008). Therefore, women who venture into entrepreneurial activity must be extraordinarily motivated and determined enough to carry forward a creative idea on their own. By doing so, they also contribute to the wealth of the country. These

limitations are the probable reason why India's number of successful women entrepreneurs still lags behind that of developed countries (Kourilsky & Walstad, 1998; Godwyn, 2009; Rizvi & Gupta, 2009).

WORK-LIFE BALANCE (WLB) OF WOMEN ENTREPRENEURS:

In the past, women were taken only as house managers but with the change of time, change of thinking and spread of education the role of women in society is changed. In recent years, women have been taking interest in income generating activities, self employment and entrepreneurship. Despite all the social hurdles, today we still find Indian women engaged in different types of traditional (e.g., garment-making, beauty care, fashion design) as well as non-traditional (e.g., founding financial institutions, educational institutions, entertainment companies) entrepreneurial activities. Indian women stand tall from the rest of the crowd and are applauded for their achievements in their respective fields. However, at present, the success of the individual as an entrepreneur depends largely on her imagination, vision, innovativeness and risk-taking ability and need not be intertwined with age-old cultural and societal etiquette.

In addition to their challenging entrepreneurial work, many of these women must also perform several roles in their families. Women's family obligations also bar them from becoming successful entrepreneurs in both developed and developing nations. In Indian context, having primary responsibility for children, home and older dependent family members, few women can devote all their time and energies to their business (Starcher, 1996). The different roles played by women entrepreneur include being a spouse, mother, daughter, caretaker and

parent, managing daily household chores and providing services to the community and society. Women also face the conflict while performing dual roles as they are not available to spend enough time with their families. The married woman entrepreneurs have a major challenge to make a perfect balance between domestic activities and business activities. Women entrepreneurs cannot succeed without the support and approval of spouse. Their success in this regard also depends upon supporting husband and family. Thus, occupational backgrounds of families and education level of husbands have a great influence on the growth of married women entrepreneurship. Women also must take care of their own health and other personal activities, which are often neglected because of role overload as well as time limitations. All of these situations lead to the absence of WLB and manifestation of many WLB issues. They spend long hours in business and as a result, they find it difficult to meet the demands of their family members and society as well. Their inability to attend to domestic work, time for education of children, personal hobbies, and entertainment adds to their conflicts.

Presently, even though the topic of WLB issues among female entrepreneurs commands urgent attention, studies pertaining to the WLB of entrepreneurial women in India are extremely scarce (Mathew & Panchanatham, 2009a). In this context, the current work is a step towards analysing the WLB issues confronted by women entrepreneurs of Mangalore city.

REVIEW OF LITERATURE:

The studies on women entrepreneurship became prominent from the 1980's when the focus of development shifted from women the 'objects' to 'subjects' of development. To analyse the WLB issues faced by women entrepreneurs of India where societal

etiquette, male dominance and deep-rooted discriminatory socio-cultural values and traditions persist. There are very few limited studies available from India on women entrepreneurship (Khanka, 2010; Mann & Phukan, 2010; Anitha & Lakshmisha, 1999) which either concentrate on the reasons for female emancipation or highlight the contributions of the few successful women entrepreneurs.

Surthi and Sarupriya (2003) investigated the psychological factors affecting women entrepreneurs. They examined the role stress experienced by women entrepreneurs on the effect of demographic variables, such as marital status and type of family, and how women entrepreneurs cope with stress. The results indicated that unmarried women experienced less stress than married women and those from joint families tended to experienced less role stress than those from nuclear families, probably because they share their problems with other family members.

Sarngadharan, M. Resia B.S. (2005) highlight that as Indians, most of the women are very serious about family obligations but they do not equally focus on career obligations are not concerned with their self-development. Women's family obligations also bar them from becoming successful entrepreneurs in both developed and developing nations. The financial institutions discourage women entrepreneurs on the belief that they can at any time leave their business and become housewives again. Indian women give more emphasis to family ties and relationships. Married women have to make a fine balance between business and family. The business success also depends on the support the family members extended to women in the business process and management. Women's family and personal obligations are sometimes a great barrier for

succeeding in business career. Only few women are able to manage both home and business efficiently, devoting enough time to perform all their responsibilities in priority.

Singh, Sengal, Tinani and Sengupta (1986) carried out an exploratory study of successful women entrepreneurs and examined their identity, expectations, motivations, types of problems encountered by them to reach the level of success and to identify the operational problems they were confronting. Analysis revealed that the five dominant motivating factors rank wise were to keep busy, to fulfill ambition, to pursue own interest, by accident or circumstances beyond control and to earn money. Also majority of the entrepreneurs felt no role conflict between family role and entrepreneurial role.

Banerjee and Talukdars (2007) in their empirical study reveal that women entrepreneurs had greater motivations, greater job involvement and higher annual family incomes. At the same time, those with high entrepreneurship faced less conflict in their roles as entrepreneurs and housewives whereas those with low entrepreneurship faced more conflict comparatively more number of women belonged to joint families, approached institutions for financing their enterprises and hired labour from outside than those having low extent of entrepreneurship.

In past decades, the female workforces in India were mainly employed in non-managerial, subordinate or low-profile positions. But now, they occupy almost all categories of positions in the workplace. These changes in work culture have added to women's duties and responsibilities to their family as well as to society. Despite this newfound work culture, more and more women are joining the workforce; women in entrepreneurial roles are limited. The probable reasons for

this phenomenon are the conflicts between competing work demands and personal and family needs. Pressures from the job and family domains are often incompatible, giving rise to imbalance. Therefore, the concept of WLB, along with its implications, is a core issue that must be investigated as more women become entrepreneurs in Indian society.

RESEARCH METHODOLOGY

Significance of the research:

Majority of the literature revives highlight on the major critical issues of work life balance of women entrepreneurs, general constraints experienced, major challenges faced by women entrepreneurs and creating opportunities from challenges for the success of women entrepreneurs in India. Meanwhile, there are limited research studies on the WLB issues of married women entrepreneurs. Even in the international arena, studies on this topic are scarce. The issue of WLB for married women entrepreneurs thus need to be recognised and thus this study.

Statement of the problem:

Married women entrepreneurs face greater challenges when compared to single women entrepreneurs. WLB issues are more critical and hence it is very essential to study WLB challenges faced by married women entrepreneurs. Thus the study was carried out in a cosmopolitan city namely Mangalore where freedom of women is not restricted and Mangalore is also known for its diverse social and organizational culture.

Objectives of the Study:

The Primary objective of the study was to study if there is any significance difference of opinion with regard to various WLB issues of entrepreneurial women belonging to service and manufacturing sectors.

The specific aim was to develop and validate an appropriate research instrument to evaluate the WLB issues faced by these entrepreneurs. Based on this research instrument, the important factors influencing the WLB of married entrepreneurial women in Mangalore city were explored. The other objectives were to study if women entrepreneurs are good at balancing Work and life and to know the impact of the profession of married women entrepreneurs on their family.

Scope of the Research:

The scope of the study was restricted to married women entrepreneurs of the city of Mangalore, Karnataka. For the study the samples with monthly income of Rs.25, 000 to Rs.1,00,000 were selected. The primary data was collected through structured interviews and a questionnaire.

Research Design:

The present study is an exploratory in nature. This also includes the descriptive study which involved the researcher in collecting the primary data by making use of the questionnaires as a research instrument to a very large extent for the purpose of the study.

Sampling Design:

Sample design is a plan for drawing the samples from the population. For the purpose of sampling the various concepts that are important are as follows.

Sample Unit:

The married women entrepreneurs who were the respondents for the study were identified based on the information provided by District Industry Centre, Mangalore.

Respondents in the study can be classified into two sectors. About 36 married women entrepreneurs were from

service sector and 33 were from the manufacturing sector.

The service related entrepreneurial activities include: managing photo copying centres, telephone booths, tailoring & fashion designers, beauty parlour etc. The manufacturing related entrepreneurial activities include: food industry, home food products, cooking masala units, stuff toy units, leather product units, oil & flour mills etc.

Sampling Frame:

The study was restricted within the city limits of Mangalore. This was mainly done keeping in mind the constraints of money and time. Although the map of Mangalore city corporation area was available, no clear list of the married women entrepreneurs was available with any one of the government department. Women entrepreneurs list was obtained from District Industry Centre, Mangalore. Using Area sampling procedure the survey was conducted finding the married women entrepreneurs who were essential for the survey by judgment sampling approach.

Sample Size:

There are some misconceptions about the size of a sample. One is that the sample should be not less than 10% of the population. Another misconception is: *"Larger the sample size, greater is the accuracy of the sample results"*. As per the decided sampling frame, the sample size obtained for the study was 75 women entrepreneurs. A total of 75 women entrepreneurs belonging to the various locations of Mangalore city were contacted personally to participate in this survey. Of the 75 questionnaires distributed, 69 duly completed questionnaires were returned, yielding a response rate of 92%.

Limitations and Implications for Future Research:

The present study included women entrepreneurs who were married and who

belong to Mangalore city. Thus this was the major limitation for the lower sample size and hence the results cannot be generalized to metropolitan cities. Hence there is a scope for including all women entrepreneurs of other life statuses for better derived results.

The respondents themselves are in the midst of an array of WLB issues, they were probably not objective when they studied and answered the questionnaire. Although the feedback related the direct behaviour of the respondents to a WLB issues, there exists a high possibility that the respondents might actually reveal an ideal response rather than their actual behaviour to a given context.

The study focused on married women entrepreneurs who belonged to service and manufacturing sectors only. Thus there is wide scope for future research to incorporate other sectors too.

To conclude, study may be applicable only to the prevailing social setup of the Indian entrepreneurial sectors because of its unique blend of culture and etiquette. Finally, as India is a multilingual, multiethnic, multi-religious and hierarchical society comprising various economic groupings, research across all states in the country may result in more conclusive data.

VALIDATING THE RESEARCH INSTRUMENT

The pilot study was conducted by collecting the preliminary data needed for the development of the research instrument from 23 women entrepreneurs via qualitative methods, such as elaborate semi-structured interviews involving 42 open-ended questions and in-depth discussions regarding WLB issues. These qualitative methods were intended to explore the diversity and intensity of the problem and its possible dimensions among the interviewees. Thus finally, 37

statements concerning the WLB issues of the married women entrepreneurs in Mangalore were developed based on extensive literature review and with consultation of research experts.

DATA ANALYSIS AND INTERPRETATION

Table 7.1: Socio Demographic Characteristics of Respondents

In this empirical study, respondents were married women entrepreneurs engaged in various entrepreneurial activities. A summary of the demographic details of respondents are in table below.

Insert table 7.1

INTERPRETATION:

It can be seen from the above table that out of 69 respondents, 51.9% of them were graduates and maximum respondents belonged to the age group of 30-40 years. Likewise, 91.3% of respondents were married and the rest were divorced/separated or widowed. With respect to the spouse's employment, 39.1% of respondents spouses were employed privately followed by them being businessmen.

Family is the primary group where in every member is directly associated with its activities. The type and size of the family determines the extent to which an entrepreneur can take decisions by herself without much dependence. The data in the above table shows that 62.3% women belonged to nuclear family setup.

Insert table 7.2

INTERPRETATION:

From the above table, it is noticed that out of 69 women entrepreneurs, 36 of them are from the service sector and remaining 33 come from the manufacturing sector. Above descriptive analysis table summarizes that on an average women

entrepreneurs had at least one dependent and about an average of two children in each family with the average family size of 4 people and at least one servant or domestic help.

It is vivid to know that the women who ventured into entrepreneurial activities are from the age group of 30-40 years and maximum women entrepreneurs had an average entrepreneurial experience of 11 years. This indicated that women ventured in their mid age of life. The discussion also revealed the main reasons for venturing into entrepreneurial activities such as increased needs in family, growing household expenses, education of children and marriage of children which forced married women to look for sources of income to support their family.

Table 7.3: Internal consistency or Reliability:

Internal consistency or reliability defines the consistency of the results delivered in a test, ensuring that various items under assessment of conflict management issues are measured correctly and reliably by respondents on Likert scale. This is checked statistically through Cronbach's coefficient alpha of reliability Alpha (α) which is depicted below.

Insert table 7.3

INTERPRETATION:

After revising the questionnaire from the pilot survey of 23 respondents with 42 statements measuring various issues regarding WLB, Reliability test using Cronbach's α was tested to test the validity of the questionnaire. From the above table both Cronbach's α values of pilot survey and research survey are greater than 0.70, thus it can be statistically concluded that there is a consistency or inter-reliability in measuring various items of various issues regarding

WLB. In a sense, the result ensures that the responses are not too varied across time in a summated scale.

Insert table 7.4

INTERPRETATION:

The research study contained 37 statements related to WLB issues. Respondents were asked to rate their level of agreement with each statement from 1 (*strongly disagree*) to 5 (*strongly agree*). Among all of the WLB-related statements presented in above table, the statement "Family is my first priority" was rated highest, with a mean score of 4.09 followed by statements such as "I give attention to the educational needs of my children" with a mean score of 3.91 and "I manage my childcare issues with ease" with a mean score of 3.84. This proves that women entrepreneurs in Mangalore give lot of priority for family and childcare issues. On the other hand observing the mean score of the statement "I remain engaged in my business related work for more than ten hours per day" which is 3.81, it can be concluded that women entrepreneurs of Mangalore agree to the fact that spending more time in business and other entrepreneurial activities they find less time for personal work which is proved from the statement "I find time for physical activities as an anti-stress technique." scored the lowest mean score of 2.67. Thus majority of women entrepreneur respondents experienced a strong relationship when it comes to family setup and least regarding managing time for physical activities as an anti-stress technique to balance work and life.

Table 7.5: Testing for Independent Sample Groups (Service Sector & Manufacturing Sector)

Hypothesis:

H₀: There is no significant difference between two sectors (service and

manufacturing) with respect to various WLB issues.

H₁: There is significant difference between two sectors (service and manufacturing) with respect to various WLB issues.

Insert table 7.5

INTERPRETATION:

In the above table the WLB issues were separately analysed for women entrepreneurs belonging to service sector and manufacturing sector. Mann Whitney test was used to test the mean scores of two groups. Thus the results from above table can be inferred as, women entrepreneurs of service and manufacturing sectors differ in their opinions towards spending time with family and all their needs, planning schedule for entrepreneurial activities, finding time for physical activities as an anti-stress technique and sleep irregularities after assuming entrepreneurial role. The results for these statements p-value are significant which means that there is a difference of opinion among women entrepreneurs of these two sectors.

The above differences are due to the fact that the service sector entrepreneurs face the problem of availability of time due to extended service hours when compared to the manufacturing sector women entrepreneurs who wind their business within a stipulated time of the day.

CONCLUSION

The present study incorporates the results of an empirical analysis of the WLB issues faced by the married women entrepreneurs of Mangalore city. Due of the scarcity of specific studies in the area, a psychometric tool was developed, based on preliminary qualitative research and a literature survey, to measure the WLB issues of these entrepreneurs. Even though the vast majority of respondents struggle with WLB issues, there exist

significant variations in the perception of WLB among the various components of women entrepreneurs from service sector and manufacturing sector.

To conclude, it is seen in the study that married women entrepreneurs of a city like Mangalore, do experience a balance between their work and life, provided that their family gives them adequate support on one hand and on the other the process of running their entrepreneurial activities do not disturb their family and personal life.

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Table - 7.1
Socio Demographic Characteristics of Respondents

Catagorical Variables	Service Sector		Manufacturing Sector		Total	
	F	%	F	%	F	%
QUALIFICATION						
Below SSLC	1	2.8	6	18.2	7	10.1
SSLC	10	27.8	4	12.1	14	20.3
PUC	9	25.0	5	15.2	14	20.3
Graduation	12	33.3	14	42.4	26	37.7
Post Graduation	4	11.1	4	12.1	8	11.6
Total	36	100.0	33	100.0	69	100.0
FAMILY TYPE						
Nuclear Family	24	66.7	19	57.6	43	62.3
Joint Family	10	27.8	11	33.3	21	30.4
Extended Family	2	5.6	3	9.1	5	7.2
Total	36	100.0	33	100.0	69	100.0
PRESENT STATUS						
Married	33	91.7	30	90.9	63	91.3
Married & Divorced/Separated	0	0	1	3.0	1	1.4
Married and Widowed	3	8.3	2	6.1	5	7.2
Total	36	100.0	33	100.0	69	100.0
SPOUSE EMPLOYMENT						
Government Employee	6	16.7	5	15.2	11	15.9
Private Employee	12	33.3	15	45.5	27	39.1
Businessmen	10	27.8	7	21.2	17	24.6
Professional	2	5.6	3	9.1	5	7.2
Retired	4	11.1	2	6.1	6	8.7
Not Living	2	5.6	1	3.0	3	4.3
Total	36	100.0	33	100.0	69	100.0
AGE						
Less than 30 years	4	11.1	9	27.3	13	18.8
30 years -40 years	14	38.9	12	36.4	26	37.7
40 years -50 years	10	27.8	9	27.3	19	27.5
50 years -60 years	7	19.4	1	3.0	8	11.6
More than 60 years	1	2.8	2	6.1	3	4.3
Total	36	100.0	33	100.0	69	100.0

Table-7.2
Descriptive Statistics- Numerical Variables

Quantitative Variables	Service Sector		Manufacturing Sector	
	Mean	Std. Deviation	Mean	Std. Deviation
Age of Respondents	40.89	10.45	38.82	10.44
No. of Dependents in Family	0.94	0.79	0.97	1.05
No. of Children in Family	1.81	1.06	1.64	1.06
Family Size	4.47	1.44	4.39	1.58
No. of Servants (Domestic helpers)	0.78	0.80	0.61	0.61
Years of Entrepreneurial Experience	11.83	8.45	10.73	8.04
Total Sample Size	36		33	

Table - 7.3
Internal Consistency or Reliability

First Research instrument used for Pilot Survey	Number of items	Cronbach's α
	42 statements	0.718
Revised Research instrument used after Pilot Survey	Number of items	Cronbach's α
	37 statements	0.799

Table - 7.4
Mean Ratings of World Life Balance (WLB) Issues (N=69)

WLB Issues	Mean	S.D
I get family members support in daily chores at home.	3.62	1.00
I get help in entrepreneurial activities from family members.	3.58	1.09
I get social support for being an entrepreneur from friends and relatives.	3.33	1.15
I personally buy all the household items.	3.20	1.12
I feel difficulty in assuming entrepreneurial role.	3.19	0.94
I have time for my family and all their needs.	3.49	1.02
I plan my schedule for entrepreneurial activities.	3.51	0.82
I spend weekends and holidays with my family.	3.33	1.01
I am part of my family during family function and festival celebrations.	3.61	1.00
I manage my childcare issues with ease.	3.84	5.01
I manage my roles and duties in a satisfactory manner.	3.54	0.90
I give attention to the educational needs of my children.	3.91	0.78
I get equal support from my employees.	3.67	0.90
I do not lose patience when handling dual roles.	3.72	0.75
I feel free and enjoy my profession as I have no dependent care issues.	3.04	1.04

I remain engaged in my business related work for more than ten hours per day.	3.81	0.88
I do not face family conflicts on a regular basis	3.06	1.06
My time resources are equally distributed between business and home.	3.55	0.80
I do not experience work life imbalance.	3.71	6.25
I am healthy enough to meet various role obligations	3.26	0.92
I visit the physician on regular intervals.	3.03	0.94
I do not have health issues (BP/Sugar) after assuming entrepreneurial role.	3.20	1.07
I do not have sleep irregularities after assuming entrepreneurial role.	2.94	1.00
I do not feel stressed often when assuming entrepreneurial role.	2.84	0.93
I can balance work and family domain in a satisfactory way.	2.94	0.89
I find time for physical activities as an anti-stress technique.	2.67^b	1.04
I am good at balancing all the facets of life.	2.94	0.97
I am socially active person.	3.75	3.68
I am good at networking.	3.36	1.10
My family supports me financially in business endeavors.	3.41	1.02
I forget I am business person when with family.	3.64	0.80
Being an entrepreneur, I am respected and helped by society.	3.35	1.00
My family members willingly listen to my work related or personal problems.	3.35	0.92
I am a successful entrepreneur by scarifying many of my family roles.	3.45	1.02
Due to multiple roles in family I could not succeed in entrepreneurial domain.	3.29	0.97
Family is my first priority.	4.09^a	0.92
As I can balance both work and Life, I am relaxed	3.52	0.80

Note: Five-point Likert scale was used for rating the WLB issues ranging from 1 (strongly disagree) to 5 (strongly agree).

a = the highest mean among all issues; b = the lowest mean among all issues.

Table - 7.5
Testing for Independent Sample Groups (Service Sector & Manufacturing Sector)

Sl. No	Description	Mann-Whitney Test	Asymp. Sig. (2-tailed)	Decision
1	I get family members support in daily chores at home.	540	0.48	Accept H_0
2	I get help in entrepreneurial activities from family members.	590.5	0.963	Accept H_0
3	I get social support for being an entrepreneur from friends and relatives.	543.5	0.524	Accept H_0
4	I personally buy all the household items.	486	0.169	Accept H_0
5	I feel difficulty in assuming entrepreneurial role.	454.5	0.072	Accept H_0
6	I have time for my family and all their needs.	384	0.007*	Reject H_0
7	I plan my schedule for entrepreneurial activities.	397	0.011*	Reject H_0
8	I spend weekends and holidays with my family.	541	0.505	Accept H_0
9	I am part of my family during family function and festival celebrations.	485.5	0.174	Accept H_0
10	I manage my childcare issues with ease.	577	0.829	Accept H_0
11	I manage my roles and duties in a satisfactory manner.	524	0.357	Accept H_0
12	I give attention to the educational needs of my children.	496.5	0.212	Accept H_0
13	I get equal support from my employees.	562.5	0.688	Accept H_0
14	I do not lose patience when handling dual roles.	538.5	0.482	Accept H_0
15	I feel free and enjoy my profession as I have no dependent care issues.	546.5	0.551	Accept H_0
16	I remain engaged in my business for more than ten hours per day.	479.5	0.133	Accept H_0
17	I do not face family conflicts on a regular basis	544.5	0.537	Accept H_0
18	My time resources are equally distributed between business and home.	511.5	0.269	Accept H_0
19	I do not experience work life imbalance.	587	0.931	Accept H_0
20	I am healthy enough to meet various role obligations	513	0.304	Accept H_0
21	I visit the physician on regular intervals.	533	0.441	Accept H_0
22	I do not have health issues (BP/Sugar) after assuming entrepreneurial role.	557	0.634	Accept H_0
23	I do not have sleep irregularities after assuming entrepreneurial role.	436	0.046*	Reject H_0
24	I do not feel stressed often when assuming entrepreneurial role.	573	0.790	Accept H_0
25	I can balance work and family domain in a satisfactory way.	509.5	0.281	Accept H_0
26	I find time for physical activities as an anti-stress technique.	404.5	0.016*	Reject H_0
27	I am good at balancing all the facets of life.	586.5	0.925	Accept H_0
28	I am socially active person.	503.5	0.245	Accept H_0
29	I am good at networking.	573	0.794	Accept H_0
30	My family supports me financially in business endeavors.	582	0.878	Accept H_0
31	I forget I am business person when with family.	525.5	0.378	Accept H_0
32	Being an entrepreneur, I am respected and helped by society.	546	0.545	Accept H_0
33	My family members willingly listen to my work related problems.	477	0.136	Accept H_0
34	I am a successful entrepreneur by scarifying many of my family roles.	532.5	0.438	Accept H_0
35	Due to multiple roles in family, I could not succeed in entrepreneurial domain.	540	0.498	Accept H_0
36	Family is my first priority.	540	0.489	Accept H_0
37	As I can balance both work and Life, I am relaxed	554.5	0.606	Accept H_0

**P-values are significant at 5% l.o.s*

Managerial skills in SME

Dr. R. Arasu,

PRINCIPAL

University of Madras Constituent College of Arts and Science,
Nemmeli.

Mr. Mujeebur Salahudeen

Assistant Professor

Manipal University Dubai Campus,
Dubai, UAE

INTRODUCTION

In the era of Globalization, Liberalization and Privatization, Organization has to change or modify existing policies of the organization. In this drastic change, organizations are facing two basic problems i.e. how to bear change and How to make employees to adopt change or mitigate their resistance. Managerial skills are sets of qualities and attributes in the personality of managers that enable them to effectively manage the working of a firm. Good managerial skills can create a world of difference in the efficiency and performance of the organization. Researchers have found that traditional Manager Skills wouldn't bring favorable change at workplace. So Manager has to learn some special skills which bear on employee's behavior and attitudes. Small and medium enterprises (SMEs) play significant part in employment and professional training of young people. Compared to big companies, they employ more women, young people and part-time employees. SMEs are closely connected with the region than large employers and therefore have significant influence on further the region's development. Generally a SME owner has good business ideas and can turn the ideas into reality. Turning an idea into reality by a manager calls upon two sorts of skills, which is general and people management. General management skills are required to organise the physical and financial resources needed to run the business and people management skills are needed to obtain

the necessary support from others for the business to succeed. Management skills and business knowledge are an indication of how well a manager can perform important tasks and activities related to the functions of a business.

REVIEW OF LITERATURE

Managers' knowledge and skills constitute firm-specific intangible resources and managers play a crucial role in influencing firm internationalization regardless of its size. Yet in smaller and younger firms the skills and knowledge of the management team are likely to be even more important and influential on the firm's internationalization and performance than in larger firms (Reuber and Fisher 1997). More specifically, researchers focused on managerial attitude and perceptions about exporting (Leonidou, Katsikeas and Piercy 1998; Suarez-Ortega and Alamo-Vera 2005), international experience of managers (Reuber and Fisher 1997) and managers' knowledge and capabilities relevant to the export development process.

Managers must be able to use the talents of its employees to continuously innovate and reach new goals. One way this can be done is by having a diverse workforce who is able to learn from one another by synergizing and strategizing. As a matter of fact, "Using the talents and skills of individuals from other departments often leads to opportunities for cost reduction that might not otherwise be considered" (Pudlowski, 2009, p. 39).

Effective managers are needed to successfully manage diverse groups with different opinions, experiences, and talents. "Management is especially important when there are significant complementarities and spillovers between the actions of different individuals or groups" (Postrel, 2009, p. 273) and survey used three sets of skills: business skills, logistics skills and management skills. Business ethics was found to be the top-rated business skill, and personal integrity was found to be very important among management skills, whereas transport and traffic management was found to be the top-ranked logistics skill. A recent study declares that entrepreneurs who have more managerial work experience are more likely to place further emphasis on strategy development comparing to those who do not have the experience (Karami et al., 2006).

Some believe that having professional skill in management field, particularly in strategy setting, is of great significance (Karami et al., 2006; Ruzzier et al., 2007). A proposed a typology of managerial skills with respect to types of leadership according to which taskmasters, mediators, motivators and leaders should possess human, sensitivity and administrative ability; personal leaders need to hold persuasion and articulation skills; and architect leaders need creativity skills, intellectual ability, and conceptual ability. Creativity is also important for firm success. The management team is required to use its creative skills to recognize the "strategic alternatives made valid by developments in the marketplace and the capability and resources of the company". Social skills have not received much attention in business schools. Whetten and Cameron (2001, p. 14) argue that analytical skill is a critical but not a sufficient prerequisite for success,

suggesting that "successful managers must be able to work with people".

Despite the agreement about the importance of managerial skills, more effort is required to identify the managerial skills that will be most critical in a future of rapid globalization, technological advancement and social change. For example, Yukl (2002) suggested that there will be a premium on competencies such as cognitive complexity, emotional and social intelligence, self-awareness, cultural sensitivity, behavioral flexibility, and the ability to learn from experience and adapt to change.

Managerial skills are classified into four main groups. The first group focuses on participation and human relations skills, e.g. constructive communication and team building, while the second group focuses on competitiveness and control, e.g. assertiveness, power and influence skills. A third group focuses on innovativeness and entrepreneurship, such as creative problem solving, while a fourth group focuses on maintaining order and rationality, e.g. managing time and rational decision-making. Managers require certain managerial skills to manage a business successfully, namely technical, conceptual, interpersonal, communication, analytical, decision-making, administrative and problem-solving skills.

OBJECTIVES OF THE STUDY

To identify the socio-economic characteristics of the Managers in SME.

To identify any difference between the socio-economic characteristics of the managers in SME's.

To identify the factors influencing to the managerial skills in the SME's managers.

LIMITATIONS

The present study is based on the primary data collected from the Managers in the SME's in Chennai city. Hence, the drawbacks and limitations of the field level survey are very much applicable to the present research. The findings and recommendations may not be applicable to other environments. The data and information collected from the respondents are subjected to recall bias. Though the sample firms belong to a variety of industries, further research should be conducted, in Tamilnadu as well as in other states, to extend and generalize the results of this study.

METHODOLOGY

A questionnaire was developed on the basis of items used in previous research in order to increase the validity and reliability of examined constructs' measures. The included questions were pretested on a small sample of managers in one of the targeted industries to check their clarity. The Chennai city is purposively selected for the present study since it is the predominating trade center for Tamil Nadu. The sample was selected using a stratified random sampling procedure. About 100 respondents were selected by adopting stratified random techniques and were interviewed. Information/data was collected by interviewing the respondents by using a pre-tested, well-structured interview schedule. The data and information collected pertains to the year 2011-12. The descriptive statistics, frequency analysis and mean score and factor analysis were carried out to draw meaningful interpretations. This major survey was supported by a series of face-to-face interviews conducted in each of the area. Respondents were asked to rate against a series of managerial skills criteria.

Factors Influencing to the Managerial Skills in the SME's Managers:

To study the factors influencing to the managerial skills in the SME's managers, twenty one questions were asked; each question had five responses "Strongly Agree", "Agree", "No Opinion", "Disagree", and "Strongly Disagree". With the help of the five point scale the factors influencing to the managerial skills was measured.

Analytical framework for factor analysis:

Mathematically, factor analysis is somewhat similar to multiple regression analysis. Each variable is expressed as a linear combination of underlying factors. The amount of variance a variable shares with all the other variables included in the analysis is referred to as commonality. The co-variation among the variables is described in terms of a small number of common factors plus a unique factor for each variable. These factors are not over observed. If the variables are standardized, the factor model may be represented as:

$$X_i = A_{i1} F_1 + A_{i2} F_2 + A_{i3} F_3 + \dots + A_{im} F_m + V_i U_i$$

Where,

X_i = i^{th} standardized variable,

A_{ij} = Standardized multiple regression coefficient of variable i on common factor j

F = Common factor,

V_i = Standardized regression coefficient of variable i on unique factor i

U_i = The unique factor for variable i

m = Number of common factors

The unique factors are uncorrelated with one another and with the common factors. The common factors themselves

can be expressed as linear combinations of the observed variables.

$$F_i = W_{i1} X_1 + W_{i2} X_2 + W_{i3} X_3 + \dots + W_{ik} X_k$$

Where,

F_i = Estimate of i^{th} factor

W_i = Weight or factor score coefficient

K = Number of variables.

It is possible to select weights or factor score coefficients so that the first factor explains the largest portion of the total variance. Then a second set of weights can be selected, so that the second factor accounts for most of the residual variance, subject to being uncorrelated with the first factor. This same principle could be applied to selecting additional weights for the additional factors. Thus, the factors can be estimated so that their factor scores, unlike the value of the original variables, are not correlated. Furthermore, the first factor accounts for the highest variance in the data, the second factor for the second highest, and so on.

RESULTS AND DISCUSSION

Socio-Demographics

The socio-demographic features of managers were analyzed and the results are hereunder discussed.

Gender Wise Classification of the Respondents

The frequency distribution of the gender of the managers was analyzed and the results are presented in Table 1. The results showed that about 66 per cent were males while the rest of 34 per cent were females.

Insert table 1

The age distributions of managers were analyzed and the results are presented in Table 2. From the table, the majority of managers (47.00 per cent)

belonged to the age group of 30-45 years followed by the age group of 45 and above (32.00 per cent). Only 21.00 per cent of managers were in the age group of less than 30 years. The chi square value was 0.01 and it was statically significant at five per cent level of significance indicating that there was a significant difference between age of the managers in SME.

Insert table 2

The educational qualifications of the managers are presented in Table 3. The results indicated that majority of the managers were Post graduation (41.00 per cent) and followed by the Professionals (33.00 per cent). 26.00 per cent of the managers were under graduation. The chi square value was 0.05 and it was statically significant at five per cent level of significance indicating that there was a significant difference between educational qualifications of the managers.

Insert table 3

The monthly incomes of the managers are presented in Table 4. The results showed that about 43 per cent of managers earned income in the range of Rs. 30,000 – 40,000 from their company followed by Rs. 20,000 – 30,000 (33.00 per cent). About 12 per cent of the managers earned the income in the range of Rs.40,000 – 50,000. 3 per cent earned their income in the range of above 50,000. The chi square value was 0.02 and it was statically significant at five per cent level of significance indicating that there was a significant difference between the monthly incomes of the managers in SME.

Insert table 4

The distribution of the nature of working companies of the managers is presented in Table 5. It is clear that about 38 per cent of the managers were working in marketing followed by manufacturing (32 per cent). About 21 per cent of the

managers working in supplier companies while, only 9 per cent was involving in service sector. The chi square value was 0.01 and it was statically significant at five per cent level of significance indicating that there was a significant difference between the nature of working companies of the managers in SME.

Insert table 5

The numbers of years working in the present company of the managers are presented in the table 6. 32 per cent of the managers are working in the present companies between 4-6 years and followed by 6-8 years (28.00 per cent), 2-4 years (19.00 per cent). 9.00 per cent of the managers are working in present company is less than 8 years. The chi square value was 0.03 and it was statically significant at five per cent level of significance indicating that there was a significant difference between the numbers of years of working in present companies of the managers in SME.

Insert table 6

The numbers of years in present job of the managers are presented in the table-7. Majorities (29.00 per cent) of the managers are between 6-8 years of experience in the present job and followed by 6-8 years (26.00), 2-4 years (25.00 per cent). The chi square value was 0.01 and it was statically significant at five per cent level of significance indicating that there was a significant difference between the numbers of years in present job the managers in SME.

Insert table 7

Skills related to the job are presented in table -8. 73.00 per cent of the managers are having the skills of both managerial and technological skills and followed by managerial skills (18.00 per cent), technological skills (9.00 per cent) in their job. The chi square value was 0.087

and it was statically significant at five per cent level of significance indicating that there was a significant difference between the skills related to the job of the managers in SME.

Insert table 8

The Level of responsibility of the managers are analysed and the results are presented in the table-9. Majority (68.00 per cent) of the managers responsibility is middle level and followed by lower level (20.00 per cent), Upper level (16.00 per cent). The chi square value was 0.056 and it was statically significant at five per cent level of significance indicating that there was a significant difference between the levels of responsibility of the managers in SME.

Insert table 9

Factors Influencing to the Managerial Skills in the SME's Managers:

In order to assess their managerial skills, 21 statements were identified and the respondents were observed for each of the statements in the schedule using the Likert Type Scaling Technique. The result of factor analysis indicates that the narrated factors influence the respondents' managerial skills to the managers. The factor loading of the variables in each factor and its reliability coefficient, the eigen value and the per cent of variation of the factors are presented in Table-10.

Insert table 10

The factors extracted from the above factor analysis, namely, Entrepreneurial skills, Leadership skills, Ability to look well in to the future, Administrative and problem solving skills, Positive attitude skills, Acceptance responsibility, Human relation skills, Learning skills explain the factors influencing in the managerial skills to the SME's managers to the extent of 63.70.

The most important factor is **'Entrepreneurial Skills'**. It consists of three variables Ability to recognise opportunities, Ability to explore business opportunities, Set clear, measurable benchmarks, with the reliability coefficient of 0.6352. The eigen value and the per cent of variation of this factor are 3.0143 and 15.90 per cent respectively.

The second important factor is **'Leadership Skills'**. It consists of three variables Willingness to take risks,

Have a plan of action, Make work interesting with the reliability coefficient of 0.9971. The eigen value and the per cent of variation of this factor are 1.8815 and 9.90 per cent respectively.

The third important factor is **'Ability to look well in to the future'**. It consists of two variables Encourage goal setting, Makes a person open to new opportunities and challenges with the reliability coefficient of 0.9970. The eigen value and the per cent of variation of this factor are 1.4036 and 7.40 per cent respectively.

The fourth important factor is **'Administrative and problem solving skills'**. It consists of four variables People management, Never compromise with honesty, Hear both sides before judging, Listen twice as much as you speak with the reliability coefficient of 0.4663. The eigen value and the per cent of variation of this factor are 1.3482 and 7.10 per cent respectively.

The fifth important factor is **'Positive attitude skills'**. It consists of three variables Develop an attitude of gratitude, Build positive self esteem, Fatalistic attitude with the reliability coefficient of 0.5741. The eigen value and the per cent of variation of this factor are 1.2240 and 6.40 per cent respectively.

The sixth important factor is **'Acceptance responsibility'**. It consists of

two variables Willingness to take responsibility for decisions, Family responsibilities with the reliability coefficient of 0.3677. The eigen value and the per cent of variation of this factor are 1.1410 and 6.00 per cent respectively.

The seventh important factor is **'Human relation skills'**. It consists of two variables Leads to better relationship of fulfilling lives, Makes a person self motivated and ambitious with the reliability coefficient of 0.9913. The eigen value and the per cent of variation of this factor are 1.0584 and 5.60 per cent respectively.

The last important factor is **'Learning skills'**. It consists of four variables Learning self discipline, Eagerness to learn, Create continuous education program for yourself, Have a continuous training with the reliability coefficient of 0.6463. The eigen value and the per cent of variation of this factor are 1.0270 and 5.40 per cent respectively.

This factor analysis shows that these eight important factors are influencing the managerial skills in the SME's Managers.

CONCLUSION

The results showed that about 66 per cent were males while the rest of 34 per cent were females. The, majority of managers belonged to the age group of 30-45 years followed by the age group of 45 and above. The majorities of the managers were Post graduation and followed by the Professionals. The managers earned income in the range of Rs. 30,000 – 40,000 from their company followed by Rs. 20,000 – 30,000. Most of the managers were working in marketing followed by Manufacturing. 32 per cent of the managers are working in the present companies between 4-6 years and followed by 6-8 years. Majority of the managers are between 6-8 years of

experience in the present job and followed by 6-8 years. Majority of the managers are having the skills of both managerial and technological skills and followed by managerial skills. Majority of the manager's responsibility is middle level and followed by lower level. From the factor analysis, the following factors are influenced in the managerial skills to the SME's managers, Entrepreneurial skills, Leadership skills, Ability to look well in to the future, Administrative and problem solving skills, Positive attitude skills, Acceptance responsibility, Human relation skills, Learning skills.

RECOMMENDATIONS

In the above conclusions, concerted effort needs to be made to encourage managers to improve their level of education and training, but should also assist in improving their performance in a range of technical skills (marketing, production management, quality control, customer service). Industry should be encouraged to undertake an audit of managerial skills, with a focus on such areas as education levels and competency at specific tasks. If such an audit were conducted in concert with education institutions it would enable the identification of specific areas of need and assist the formulation of appropriate education programs. Training should also focus on administration, financial management, and marketing skills. Training should be more of a practical nature; less formal and classroom-based, and should include follow-up practical courses. Ethnic entrepreneurs would then also be more equipped to make better-informed decisions, and to steer their business away from known pitfalls. Improving the managerial skills of small business owners will solve unemployment problems and a stagnating economy.

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Table 1
Frequency Distribution of Gender of the Managers

Sex	Frequency	Per cent
Male	66	66.00
Female	34	34.00
Total	100	100.00

Source: Primary data.

Table - 2
Frequency Distribution of Age of Managers in SME

Age	Frequency	Per cent	Chi Square Value	Sig
< 30 Years	21	21.00	0.010	0.00
30-45 Years	47	47.00		
45 and Above	32	32.00		
Total	100	100.00		

Source: Primary & Computed Data

Table - 3
Frequency Distribution of Qualification

Educational Qualification	Frequency	Per cent	Chi Square Value	Sig
School Education	0	0	0.050	0.00
Under Graduation	26	26		
Post Graduation	41	41		
Professionals	33	33		
Total	100	100		

Source: Primary & Computed Data

Table-4
Frequency Distribution of Monthly Income

Monthly Income(Rs)	Frequency	Per cent	Chi Square Value	Sig
< 20000	11	12.00	0.02	0.01
20000- 30,000	31	31.00		
30,000 – 40,000	43	43.00		
40,000- 50,000	12	12.00		
> 50,000	3	3.00		
Total	100	100.00		

Source: Primary & Computed Data

Table - 5**Frequency Distribution of the Nature of Working Companies**

Sector	Frequency	Per cent	Chi Square Value	Sig
Manufacturing	32	32.00	0.01	0.00
Marketing	38	38.00		
Supplier	21	21.00		
Service	9	9.00		
Total	100	100.00		

*Source: Primary & Computed Data***Table - 6****Distribution of the number of years of working in present organisation**

Number of years	Frequency	Per cent	Chi Square Value	Sig
< 1 year	12	12.00	0.03	0.00
2-4	19	19.00		
4-6	32	32.00		
6-8	28	28.00		
> 8 year	9	9.00		
Total	100	100.00		

*Source: Primary & Computed Data***Table - 7****Frequency Distribution of the number of years in present job**

Number of years	Frequency	Per cent	Chi Square Value	Sig
< 1 year	8	8.00	0.01	0.00
2-4	25	25.00		
4-6	29	29.00		
6-8	26	26.00		
> 8 year	12	12.00		
Total	100	100.00		

*Source: Primary & Computed Data***Table - 8****Frequency Distribution of the skills related to the job**

Skills	Frequency	Per cent	Chi Square Value	Sig
Technological	9	9.00	0.087	0.00
Managerial	18	18.00		
Both	73	73.00		
Total	100	100.00		

*Source: Primary & Computed Data***Table-9****Frequency Distribution of the level of the responsibility**

Responsibility	Frequency	Per cent	Chi Square Value	Sig
Lower level	20	20.00	0.056	0.00
Middle level	68	68.00		
Upper level	12	16.00		
Total	100	100.00		

Source: Primary & Computed Data

Table -10

Factors influencing to the Managerial Skills in the SME's Managers

Factors	Variables	Factor Loading	Reliability Coefficient	Eigen Value	Percent of Variation
Entrepreneurial skills	Ability to recognise opportunities	0.9978	0.6352	3.0143	15.9
	Ability to explore business opportunities	0.9974			
	Set clear, measurable benchmarks.	0.9946			
Leadership skills	Willingness to take risks.	0.8949	0.9971	1.8815	9.9
	Have a plan of action	0.8895			
	Make work interesting	0.8549			
Ability to look well in to the future	Encourage goal setting	0.7404	0.9970	1.4069	7.4
	Makes a person open to new opportunities and challenges	0.7202			
	People management	0.7328	0.4663	1.3482	7.1
Administrative and problem solving skills	Never compromise with honesty	0.6612			
	Hear both sides before judging	0.6532			
	Listen twice as much as you speak	0.6101			
Positive attitude skills	Develop an attitude of gratitude	0.6709	0.5741	1.2240	6.4
	Build positive self esteem	0.5114			
	Fatalistic attitude	0.3930			
Acceptance responsibility	Willingness to take responsibility for decisions	0.7285	0.3677	1.1410	6.0
	Family responsibilities	0.6315			
Human relation skills	Leads to better relationship of fulfilling lives	0.7292	0.9913	1.0588	5.6
	Makes a person self motivated and ambitious	0.5647			
Learning skills	Learning self discipline	0.7335	0.6463	1.0270	5.4
	Eagerness to learn	0.5375			
	Create continuous education program for yourself	0.5218			
	Have a continuous training	0.5106			

A Study on Teaching and Quality Assessments of 'Accounting Education' in Saudi Arabia

Dr. R. B. Sharma

Assistant Professor

Department of Accounting

College of Business Administration, Al-Kharj

Salman Bin Abdulaziz University

Post Box: 165 Al Kharj - 11942

Kingdom of Saudi Arabia.

E-mail: rbsharmaji@gmail.com

Abstract

At the time when Saudi economy is passing through the phase of structural unemployment, it is critically important to re-assess the ongoing teaching and skill development programs run by education institutions. In this light, the present study is a noble attempt to assess the quality and teaching of accounting institution in Saudi Arabia. The study is based on random sample survey of 150 students studying in different universities in the Kingdom. The survey is divided into two parts. The first part deals with quality aspect followed by teaching methods including the course contents of accounting education. The sample observations analyzed suggest that more than 55% and 64% respondents were satisfied with the quality and teaching of accounting education, respectively. Based on the results, the study concludes that the factors that determine the quality of accounting education are regular updating of course contents, alteration of courses and study material. Similarly, for the improvement in 'teaching quality of accounting', teacher attitude, behavior, assessment policy, and follow of lecture plans appeared to be important factors.

Keywords: Accounting education, teaching and quality.

INTRODUCTION

Education is always considered as one of the founding pillars of modern society. The promotion of inclusive education is often regarded as the only way that can break the shackles of economic, social and political backwardness in a country. Considering this, Saudi Arabia which is the largest country in the Gulf region and also the strongest member of the richest economic block in the world i.e. Gulf Co-operation Council (GCC) countries, is currently passing through a phase of social and economic transformations. Consequently, government has put strong emphasis on the development of a vibrant education system by setting-up large number of public and private universities in the

Kingdom. The education system in the Kingdom comes under the jurisdiction of ministry of education, ministry of higher education, general organization for technical education and vocational training. Primary education system in the Kingdom was introduced in the year 1930, King Saud University was the first university established in the year 1957, under the patronage of ministry of higher education. Female education in the Kingdom started in the year 1964. At present, there are more than 100 public and private universities including specialized educational and research institutes/universities in Saudi Arabia, offering wide-range of education and skill development programs, covering almost all the fields of modern education including

business, social science, humanities, basic and applied sciences. The main motive is to increase the participation of endogenous population in the labor force so that the soaring unemployment rate could be contained. Despite such a gigantic effort of human resource development, there are still apprehensions about the level of teaching and research training of the students as the industry specific courses such as business, accounting and finance have not been able to contribute to the mainstream significantly. It is widely believed that there is widespread difference between industry need and teaching and training skills of students in the Kingdom. Therefore, there is a need to undertake studies that can bring out new insights and provide new direction to the curriculum development of these courses. In this light, the present study attempts to examine the quality and teaching assessment of accounting education in Saudi Arabia.

In the Kingdom, Saudi Organization for Certified Public Accountings (SOCPA) is professional accounting body. The objectives of the SOCPA is to review, develop and approve accounting and auditing standards, establishing necessary rules for accounting and auditing professionals, review the quality of accounting program, also conduct research work in the field of accounting, auditing and relevant fields.

To promote knowledge based economy, the government of Saudi Arabia grants scholarship. It is currently managed by Ministry of Higher Education, who helps young Saudi male and female students to study abroad at the best universities in USA, Canada, European countries, Australia, New Zealand, Japan, China, South Korea, India, Malaysia and other countries for bachelor, master, Ph.D. and research fellowship.

OVERVIEW OF EDUCATION SYSTEM IN SAUDI ARABIA

Saudi Arabia's education sector is currently facing the problems of lack of human resources to support the education system, lack of motivation among students to pursue technical education and quality of teaching and learning skills. This is mainly because despite the start of higher education in 1950s, the education alone has not been one the major drivers of the economy. The Saudi Arabia still relies on the large number of expats' skills and hire in bulk to support the economy. However, the 9th plan of Saudi government has focused comprehensively on the development of education system in the Kingdom. At present, there are 28 technical institutes, 50 industrial training institutions, 10 research centers, 15 universities, technological and innovation centers provisions are made. For the year 2014, the government had taken visionary and bold step by sanctioning 22.7% of total national budget for education sector. To promote knowledge based economy, the government of Saudi Arabia grants scholarship every year to the bright students.

REVIEW OF LITERATURE

In the literature, not many studies have focused on assessing the prevalent education system in the any country. Studies that deal with education sector particularly on the assessment of accounting education are very scarce and there is need to enhance knowledge in this area.

Paul Ramsden and Ingrid Mosses (1992), empirically examined the relationship between research and under graduate teaching in Australian higher education. The result revealed no relation and the negative relation between teaching and research at the level of the individual and at the level of the department,

respectively, across all the subject area. The study concludes that there is no evidence of a simple functional association between high research output effectiveness of undergraduate teaching.

The study of *Caine, (2011)* reports that the crucial role of higher education within the knowledge economy and the recognition of the need for highly skilled graduates to apply knowledge in order to advance economic competitiveness and social development must lead to improvement in policy positions and approaches towards the role of and investment in higher education in developing countries.

Tariq Elyas and Michelle Picard (2010) in their study examine the history and impacts of modern teaching in Saudi Arabia. The study examines the relationship between traditional, teachers' identity and teaching of English language.

Obaid S. Almotairy et al (2012) in their study attempt to diagnose the knowledge in the IFRS in the accounting students and explore teaching IFRS in the Saudi universities' curriculum. Based on the analysis of survey respondents, the study finds that a large majority of respondents agreed on the need to adopt the IFRS in Saudi Arabia, which require Saudi universities to incorporate and teach IFRS.

Peter Booth et al (2010), in their study examine the learning approaches of accounting students from two Australian universities as compared to data for Australian arts, education and science students. In addition, they consider the impact of accounting students' approaches to learning on their academic performance. Their study concludes that higher surface approach scores appear to be associated with less successful academic performance, while, no association was found for deep approach scores.

Freeka and Reckers (2010) examine with the sample of more than 500 practicing auditors, recent graduates of master of accounting programs in the USA, to assess the workplace relevance of current course work and to identify and priorities future curriculum initiatives. The auditors ranked 'report writing or written communication skills as being the most important area to develop in the curriculum, sounding a clear challenge to accounting education.

It is apparent from above that there are not many studies conducted on Saudi Arabia especially in the light of recent developments in the area of accounting education. Particularly with regard to the teaching assessment there are very limited studies even in the literature, indicating a very wide research gap. Considering this into account, the present study attempts to assess the teaching and quality of accounting education in Saudi Arabia. The main features of this study are as follows: to the best of our knowledge, this is the first study in GCC region that promises to evaluate the current practice of teaching. Second, the study covers the accounting courses offered at university level and not at individual level. This makes the study unique in its analysis. Third, the study is also particularly important because it is expected to provide a new direction of teaching of accounting education in Riyadh province of Saudi Arabia.

OBJECTIVES AND HYPOTHESES OF THIS STUDY

The major objectives of this study are as follows:

Objectives of the study:

To study the quality assessment of 'Accounting Education' in Kingdom of Saudi Arabia (Riyadh region).

To study the teaching quality of 'Accounting Education' in Kingdom of Saudi Arabia

To provide suggestions for betterment of Accounting Education in Saudi Arabia.

RESEARCH HYPOTHESIS

H₀: There is no relationship significant relationship found between quality assessment and teaching of 'Accounting Education'.

H₁: There is relationship significant relationship found between quality assessment and teaching of 'Accounting Education'.

DATA AND METHODOLOGY

The study focused on Riyadh region of the kingdom. It covers government as well as private universities of the kingdom including one female university. The selected respondents were only accounting specialized students from four renowned universities King Saud University, Salman bin Abdulaziz University, Prince Sultan University, Dar Al Uloom University and Princess Nora bint Abdul Rahman University.

The present study is based on both primary and secondary sources of data. The primary data was collected through a questionnaire which was administered to 150 students selected through simple random sampling technique. The students chosen were from specialization as well as college required courses. Fortunately, all the randomly selected students replied in time except 30 who could not return in time. The researcher also supplied the respondents the blank sheets to express their observations on the issues other than those mentioned in the questionnaire. The secondary data was collected from the various books and websites

RESULTS

Testing of Hypothesis:

In order to decipher the association between two variables, the present study uses the unconditional correlation measure. It appears that there is positive correlation between the teaching and quality assessment (see Table 1).

Insert table 1

In order to examine the hypothesized relationship between teaching assessment and quality assessment, the magnitude of correlation appears to be ($r=0.67$) (see Table 1), implying that there is high and significant relationship between quality and teaching assessment. The result suggests that there is positive relationship between these two variables, meaning that if there is enhancement of teaching assessment, this will also lead to improvement in quality of accounting education.

Insert table 2

Quality Assessments of 'Accounting Education'

In order to investigate the teaching and quality assessments of 'Accounting Education' in the kingdom of Saudi Arabia, the present study designs a questionnaire. The questionnaire was divided into two parts. First part, having eight questions, related to quality of study material, availability of resources, study material, infrastructure etc. The second part of the questionnaire having 15 questionnaires were related to teaching quality.

How do you find your Syllabus?

Figure (1) shows that among 150 respondents, 27% appeared to be strongly agree with the existing contents of the syllabus and 32% are satisfied with the syllabus. It means overall all 59% respondents do not want any alteration in the syllabus. They seem to be happy with

existing syllabus. While, 35% of the total respondents were appeared to be unsatisfied, it means they think that there should be updation and alteration in accounting courses syllabus.

Figure 1

To benefit from the course, your academic maturity is:

Through this question the study tries to answer an important question that is 'how helpful the course in your academic maturity'. The result shows that 20% and 47% are strongly satisfied and satisfied, respectively, with accounting program (Figure 2). Only 13% are strongly disagreed from the academic maturity.

Insert figure 2

What do you feel as regards understanding your course?

Figure 3 shows that more than 50% of the respondents seem to be agreed with clear understanding to accounting education. Whereas, 30% of the total respondents are unsatisfied with the current course.

Insert figure 3

Availability of purposeful reading material in the Library is adequate? :

Figure (4) shows that the purposeful reading material available in the library. It was found the 18% respondents are strongly agreed and 33% are only satisfied with the existing reading material in the library. While, almost 49% (strongly disagree and unsatisfied) are not agree that the study material is sufficient and useful.

Insert figure 4

Are you availing industries tour, laboratories, banks & other universities?

Figure (5) shows that the institutions or universities providing

industrial tour, laboratories, banks and other facilities apart from teaching. It is surprising to know that 62% respondents are not satisfied and are of view that they are not getting these facilities. Only 38% (strongly satisfied and satisfied) are agreed that they are availing these facilities.

Insert figure 5

Do you get the feedback on your performance from the teacher?

Figure (6) shows that 31% respondents are strongly agreed, 32% are satisfied that the concern teacher is giving feedback of their performance but 37% (strongly disagree and unsatisfied) are not agree with it.

Insert figure 6

Do you get the prescribed books and reading material?

Figure 7 shows that the student gets prescribed books and reading material. 32% of the respondents are strongly satisfied, 27% are satisfied. It means overall 57% are agreed that they are getting prescribed books and reading materials. While, 41% are not agreed with it.

Insert figure 7

Teaching Assessments of 'Accounting Education'

The second part of the questionnaire is designed for investigating teaching assessment of 'Accounting education' in the kingdom. In this part questions are related to teaching pedagogy, teacher attitude, internal assessment, syllabus coverage, personal interaction, lecture plan etc. There are 150 accounting specialization students participated in the survey.

Insert chart 8

In response of the question 1, "Teachers preparation for the class lecture

is?" 30% are strongly satisfied, 55% are satisfied and only 14% (11% + 3%) are not agreed that the teacher is well preparing for class lecture.

In response of the question 2, "Modern pedagogy is using for students' participation in the class rooms?" 29% are strongly satisfied, 48% are satisfied and only 12 are unsatisfied and 11 are strongly unsatisfied using teaching pedagogy by the teacher.

In response of the question 3, "What is the attitude of teacher when you seek advice?". The question is related to the behavior of the teacher. 47% are strongly satisfied, 11% are satisfied, 33% are unsatisfied and 9% are strongly unsatisfied by the teacher's behavior when they are seeking advice.

In response of the question 4, "Teachers behavior in the class is?" the question is related to normal behavior of the teacher. 41% are strongly satisfied, 13% are satisfied, 39% are unsatisfied and 7% are strongly unsatisfied by the routine teacher's behavior when they are seeking advice.

In response of the question 5, "Does the internal assessment work?" the question is related to internal assessment of the students. 06% are strongly satisfied, 29% are satisfied, 37% are unsatisfied and 28% are strongly unsatisfied by methods of internal assessment.

In response of the question 6, "The syllabus coverage in the class?" the question is related to coverage of course contents in the class. 20% are strongly satisfied, 41% are satisfied, 31% are unsatisfied and 08% are strongly unsatisfied by prescribed syllabus coverage in semester or class.

In response of the question 7, "How does the internal assessment affect your course grade?" the question is related

affect overall grade by the internal assessment. 26% are strongly satisfied, 19% are satisfied, 30% are unsatisfied and 25% are strongly unsatisfied.

In response of the question 8, "Student's participation in learning process in the class encouraged by the Teachers?" the question is related to coverage of encouragement or motivation to the students for learning process. 31% are strongly satisfied, 32% are satisfied, 12% are unsatisfied and 25% are strongly unsatisfied by the teacher for his encouragement.

In response of the question 9, "Do you get chance for personal interaction with teachers?" the question is related personal interaction with the teacher. 37% are strongly satisfied, 44% are satisfied, 10% are unsatisfied and 09% are strongly unsatisfied with personal interaction with the teachers.

In response of the question 10, "Do you get opportunity for small group work?" the question is related to group discussion and team work in the class. 25% are strongly satisfied, 36% are satisfied, 26% are unsatisfied and 13% are strongly unsatisfied by getting opportunity to work in small groups.

In response of the question 11, "Are lectures from external eminent academics arranged for you?" the question is related to external eminent or expert lecture arranged by the teacher for extra and practical knowledge. 25% are strongly satisfied, 40% are satisfied, 23% are unsatisfied and 13% are strongly unsatisfied.

In response of the question 12, "Does the Teacher discuss your assignments with you?" the question is related to discussion of assignments which is given to the students. 17% are strongly satisfied, 40% are satisfied, 13% are

unsatisfied and 33% are strongly unsatisfied.

In response of the question 13, 14 and 15 related to 'Lecture Plan'. Question 13 was "Do you get the Lectures Plan of the course from your teacher in advance?" the question is related to lecture plan. The researcher would like to know the response from the students, that the teacher is following lecture plan or not? 40% are strongly satisfied, 35% are satisfied, 13% are unsatisfied and 12% are strongly unsatisfied. Question 14 "Is the Lecture Plan of the course helpful?" 42% are strongly satisfied, 30% are satisfied, 18% are unsatisfied and 10% are strongly unsatisfied. In response of the question 15, "Does the teacher follow the Lecture Plan?" 53% are strongly satisfied, 21% are satisfied, 16% are unsatisfied and 10% are strongly unsatisfied.

For the purpose of finding the research, the researcher combined the strongly agree and agree similarly unsatisfied and strongly unsatisfied has combined.

FINDINGS

(A) Quality Assessments of 'Accounting Education'

It is found that only 59% respondents are satisfied with existing syllabus. 41% are not satisfied with it.

It is found that 67% respondents are satisfied and feeling that the existing accounting course enhance the academic maturity.

More than 50% respondents are not satisfied with the appropriate availability of study material.

The universities are only focus on classes room teaching or traditional teaching, more than 60% respondents are not agree to get

facilitate with industrial tour, laboratories and other facilities.

More than 40% respondents are not agreed to get availability of prescribed books and reading material.

Insert chart 9

In the kingdom, 21% respondents are strongly satisfied, 36% are satisfied and 27% are unsatisfied and 16% are strongly unsatisfied with existing 'accounting education'. The result shows (21% + 36%) 57% respondents are satisfied with the existing quality of accounting education. The university must improve the quality of accounting education for 33% respondents and take necessary actions for improvements.

(B) Teaching Assessments of 'Accounting Education'

It is found that more than 85% respondents are agreed that teachers are well prepared for lecture. It is good quality of teachers.

Most of the students (77%) are agreed that teachers are using modern pedagogy and students are also actively participating.

More than 55% respondents are happy with that attitude of the teacher when they are seeking advice.

It is found that only 54% respondents are agreed that the teacher's behavior is good in class room.

It is surprising that teachers are not covering prescribed syllabus in given time limit. 61% are agreed of coverage of syllabus, rest 39% are not satisfied with it.

More than 50% respondents are not agreeing that internal assessment affect the course grades. It means, it is possible that there is possible of finding variances in external and internal grading.

More than 35% of the respondents are not agree that teachers are encouraging them to participate in learning process.

81% respondents are satisfied that they are happy with personal interaction with teachers. It shows outside the classroom teacher behavior is good and giving proper timing for counseling.

More than 60% respondents are agree that the university are arranging expert or guest lecture from external eminent.

57% respondents are agree that the teacher is discussing assignments, 43% are not satisfied.

82% of the respondents are agreed that the lecture plan is fruitful for them.

74% respondents are agreed that the teacher follows the lecture plan.

Insert chart 10

Chart 10 shows the overall teaching assessment of accounting education in kingdom of Saudi Arabia. In the kingdom, It is showing 31% respondents are strongly satisfied, 33% are satisfied and 22% are unsatisfied and 14% are strongly unsatisfied with existing teaching of 'accounting education'. The result shows (31% + 33%), 64% respondents are satisfied with the existing teaching of accounting education. The university teachers should improve the teaching quality of accounting education for rest

36% respondents and take necessary actions for improvements.

SUGGESTION

(A) Quality Assessments of 'Accounting Education'

More than 40% respondents are not happy with the existing course syllabus. For enhancing 'quality education' university should update accounting course syllabus by adding new courses, alteration in existing course contents. The university should constitute a subject expert committee and invite suggestion for minor/major alteration in 'Accounting Courses'.

33% respondent, are not feeling that the exiting course enhancing the academic maturity. The proper guidance and counseling of the accounting courses is required for conveying learning outcomes of the courses.

The universities of kingdom should focus on industrial tours, students academic activities, facility, expert lectures, for enhancing knowledge of students apart from traditional classes room teaching.

For quality education qualitative 'study material' is very important. The universities must prescribe updated and latest versions of books, ebooks, and journals. It is also required regular updating in library books.

(B) Teaching Assessments of 'Accounting Education'

For improving teaching quality of 'Accounting Education', the teacher should have good attitude, friendly behavior while teaching, solving queries, and counseling.

The teacher should cover 100% of prescribed course syllabus. If it is found difficult in coverage the prescribed syllabus, need to alter in syllabus or class duration, or credit hours.

The fair evaluation policy should be implemented for Internal and external. For betterment of evaluation process, peer review evaluation should be implemented in the university.

The teacher should discuss the given assignment to the students and also discussed the previous year's examination paper and assignments.

Teacher must prepare lecture plan and must follow the same. It found any difficulty in implementing the plan, should alter in next academic session or semester.

CONCLUSION

It is concluded that for the betterment of quality of accounting education regular updating of course contents, alteration of courses and study material is required. Similarly, for the improvement in 'teaching quality of accounting', teacher attitude, behavior, assessment policy, and follow of lecture plans are important factors.

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APPENDIX

Teaching Assessments of 'Accounting Education'					
S.no	Questionnaire	Strongly Satisfied	Satisfied	Unsatisfied	Strongly disagree
1	Teachers preparation for the class lecture is	30%	55%	11%	3%
2	Modern pedagogy is using for students participation in the class rooms	29%	48%	12%	11%
3	What is the attitude of teacher when you seek advice	47%	11%	33%	9%
4	Teachers behavior in the class is	41%	13%	39%	7%
5	Does the internal assessment work?	6%	29%	37%	28%
6	The syllabus coverage in the class is	20%	41%	31%	8%
7	How does the internal assessment affect your course grade	26%	19%	30%	25%
8	Is student's participation in learning process in the class encouraged by the Teachers?	31%	32%	12%	25%
9	Do you get chance for personal interaction with teachers?	37%	44%	10%	9%
10	Do you get opportunity for small group work?	25%	36%	26%	13%
11	Are lectures from external eminent academics arranged for you?	25%	40%	23%	13%
12	Does the Teacher discuss your assignments with you?	17%	40%	13%	31%
13	Do you get the Lectures Plan of the course from your teacher in advance?	40%	35%	13%	12%
14	Is the Lecture Plan of the course helpful?	42%	30%	18%	10%
15	Does the teacher follow the Lecture Plan?	53%	21%	16%	10%

Quality Assessments of 'Accounting Education'					
S.no	Questionnaire	Strongly Satisfied	Satisfied	Unsatisfied	Strongly disagree
1	How Do You Find Your Syllabus	27%	32.00%	35.30%	6.00%
2	To benefit from the course, your academic maturity is	20%	47%	20%	13%
3	What do you feel as regards understanding your course	9%	51%	30%	9%
4	Availability of purposeful reading material in the Library is	18%	33%	24%	25%
5	Are you availing industries tour, laboratories, banks & other universities?	11%	27%	49%	13%
6	Do you get the feedback on your performance from the teacher?	31%	32%	12%	25%
7	Do you get the prescribed books and reading material	32%	27%	20%	21%

Table - 1
Correlation between teaching and quality assessment

Criteria	Overall Teaching Assessment of Accounting Education	Overall Quality Assessment of 'accounting education'
Overall Teaching Assessment of Accounting Education	1	
Overall Quality Assessment of 'accounting education'	0.675022	1

Table - 2
Respondents' results

	Overall Teaching Assessment of Accounting Education	Overall Quality Assessment of 'accounting education'
Strongly Satisfied	31%	21%
Satisfied	33%	36%
Unsatisfied	22%	27%
Strongly disagree	14%	16%

Figure - 2

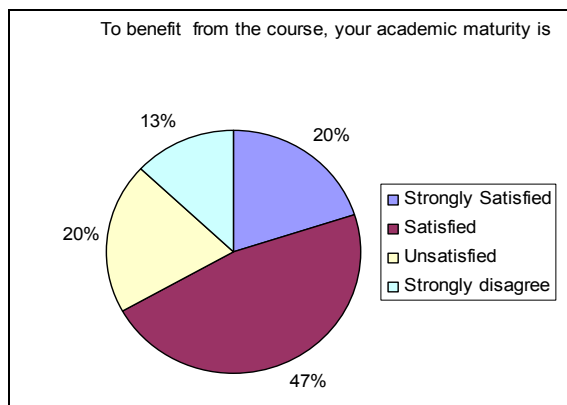


Figure - 3

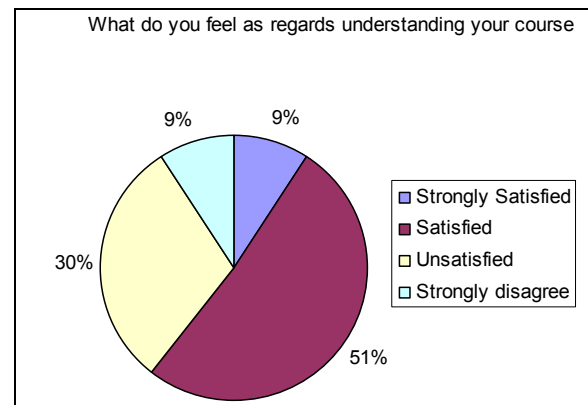


Figure - 4

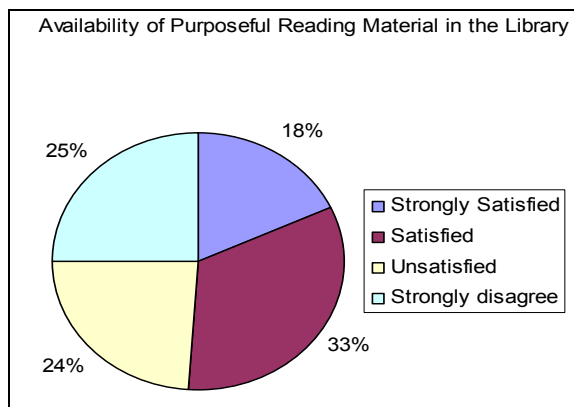


Figure - 5

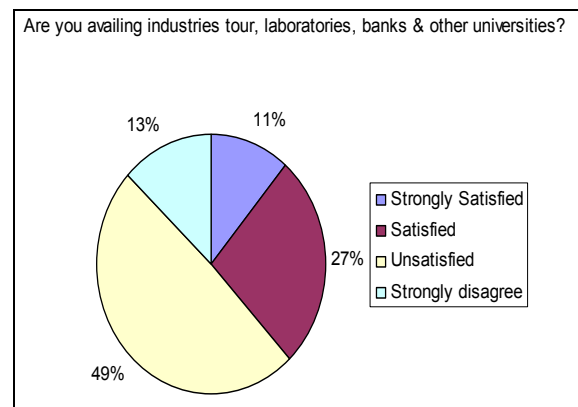


Figure - 6

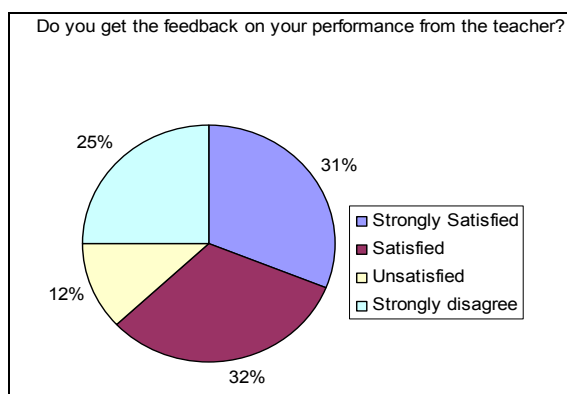


Figure - 7

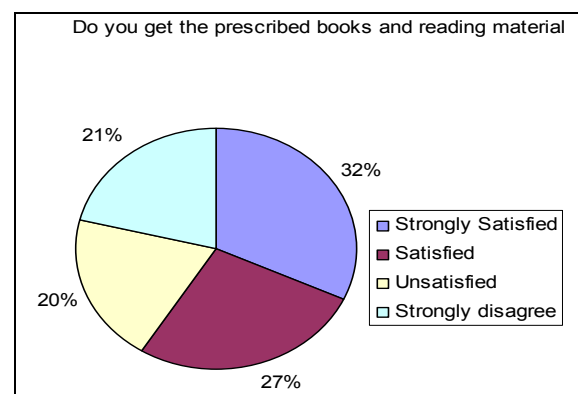
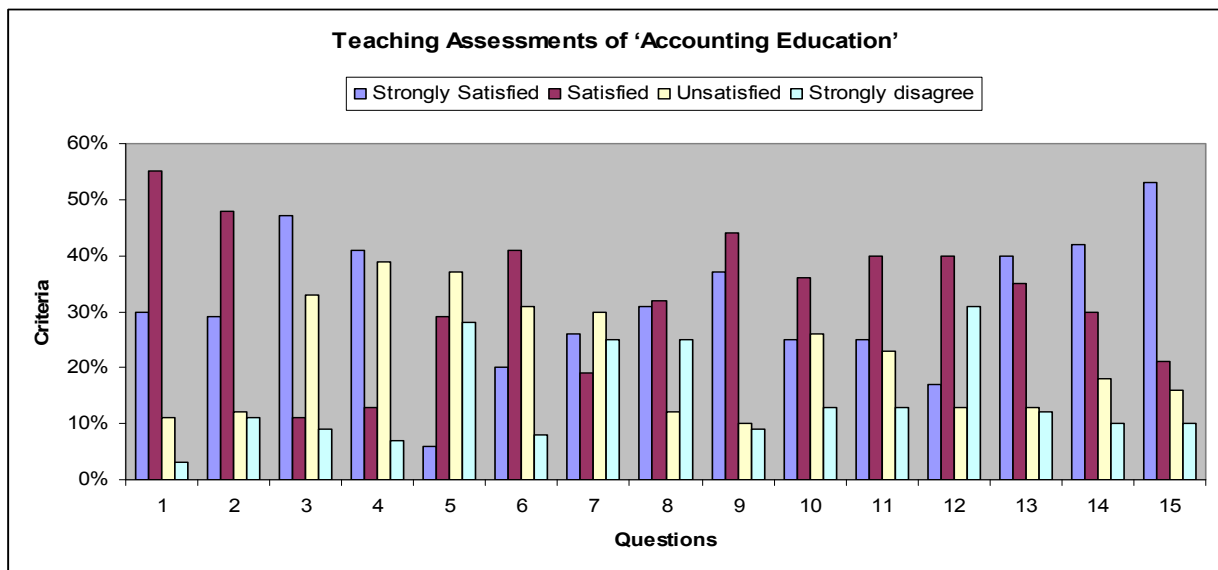
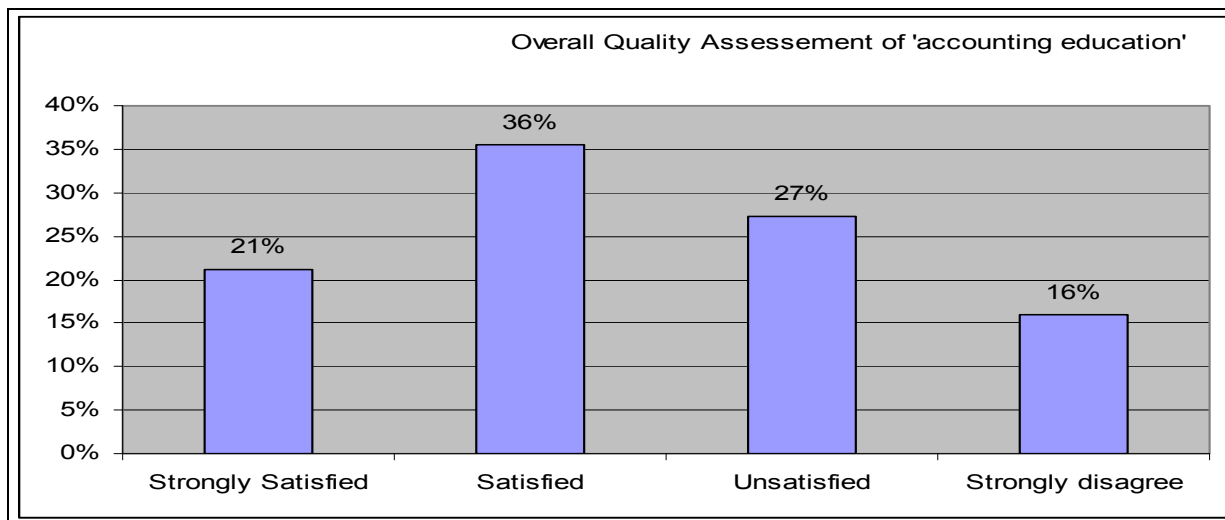
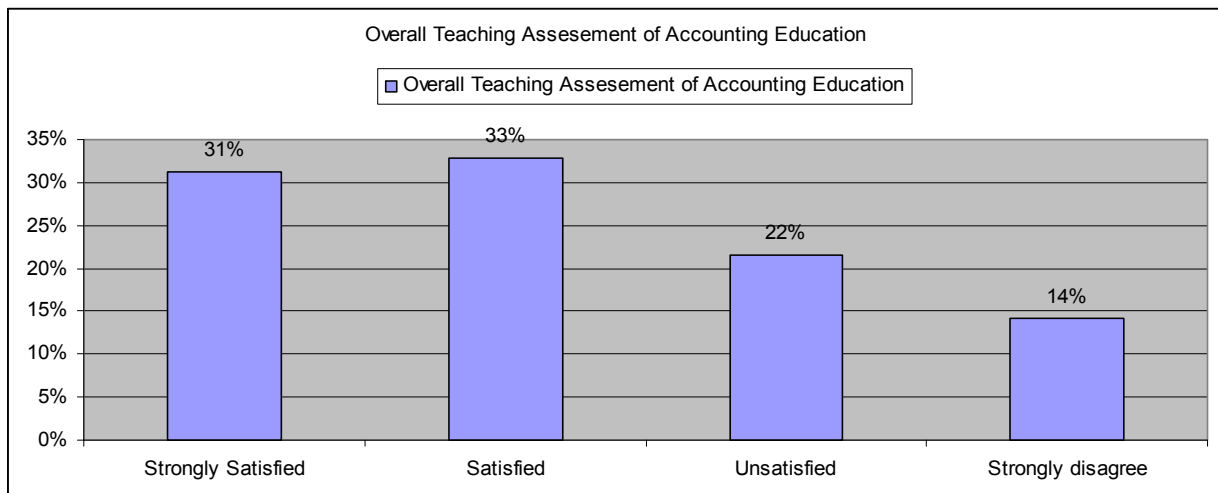


Chart - 1**Chart - 2****Chart - 3**

Exchange Rate Volatility In Indo-Pakistani Trade: A Study With Nelson – Beveridge Decomposition

Dr. SHYAM CHARAN BARMA

Assistant Professor

Balurghat College(W.B) INDIA

E-Mail: sbarma44@gmail.com

Abstract

This paper presents the results of investigation into the nature of Rupee/Pakistani Rupee exchange rate variations over the period 1976:1-2008:3 undertaken in order to examine if these exchange rates were in conformity with the 'Purchasing Power Parity Doctrine' at all. Both the exchange rate and relative price level were found to be I(1) variables without having any cointegration between them. Thus Purchasing Power Parity Doctrine was found to be invalidated over this historical dataset. The historical dataset is found to be comprised of the subperiod 1976:1-1993:2 and sub-period 1993:3-2008:3. There exists no evidence in favour of 'Purchasing Power Parity Doctrine' in the sub-period 1976:1- 1993:2. However, the estimated VEC model provide the evidence in favour of 'Purchasing Power Parity Doctrine' in the sub-period 1993:3- 2008:3.

Keywords: Stationarity, Johansen Cointegration Test, Chow Test, Vector Error Correction Model, Vector Autoregressive Estimation, Variance Decomposition, ARIMA, ADF Test.

INTRODUCTION

Purchasing Power Parity states that prices of the same good in different countries with their own currencies should be the same when the domestic price of the good is converted to a common currency. Thus PPP theory establishes the 'Law of One Price'(LOOP) across trading nations. The present study is an attempt in this direction with an objective of examining how far the Rupee/Pakistani rupee exchange rates conformed to the 'Purchasing Power Parity Doctrine' over the period 1976:1-2008:3.

REVIEW OF LITERATURE

Krichene (1998) studies the relationship between exchange rate and relative price level in five East African countries, namely, Burundi, Kenya, Rwanda, Tanzania and Uganda. **Islam and Ahmed (1999)** test the PPP hypothesis for the bilateral exchange rates and relative price level for Korea and US by employing

quarterly data for the period 1971-1996. *Dickey-Fuller* and *Phillips-Perron* tests indicate non-stationary at level for both nominal exchange rates and relative price level. However, both the series are found to be stationary upon first differencing. **G.B. Wickremasinghe (2004)** examines the empirical validity of the purchasing power parity hypothesis to Sri Lanka during the recent float using exchange rates for six foreign currencies. A preliminary analysis of real exchange rates undertaken by examining the time series plots of CPI and WPI-based real exchange rates indicates that none of the real exchange rates is stationary or mean-reverting. These results are not consistent with the PPP hypothesis.

OBJECTIVE OF THE STUDY

The objective of my present study is to find the relationship between the exchange rate and relative price level between the countries India and Pakistan

and to examine if there exists a purchasing power parity or not in whole the periods.

Test of Stationarity: Augmented Dickey-Fuller (ADF) Unit Root Test: Stationarity of exchange rate (e_{IKt}) and relative price level (p_{IKt}) series has been studied through the Augmented Dickey Fuller (ADF) tests. The basic ADF equation estimated with appropriate changes under different assumptions are

$$\Delta e_{IKt} = \alpha_1 + \beta_1 t + \gamma_1 e_{IK,t-1} + \delta_1 \sum_{i=1}^k \Delta e_{IK,t-i} + \varepsilon_{1t} \quad (1.1)$$

$$\Delta p_{IKt} = \alpha_2 + \beta_2 t + \gamma_2 p_{IK,t-1} + \delta_2 \sum_{i=1}^k \Delta p_{IK,t-i} + \varepsilon_{2t} \quad (1.2)$$

where

$$\Delta e_{IKt} = (e_{IKt} - e_{IK,t-1}) \text{ and } \Delta p_{IKt} = (p_{IKt} - p_{IK,t-1})$$

etc. $\varepsilon_{1t} \sim iidN(0, \sigma_{\varepsilon_1}^2)$ and

$$\varepsilon_{2t} \sim iidN(0, \sigma_{\varepsilon_2}^2).$$

The optimal lag j may be determined through Akaike Information Criterion, Schwartz Information Criterion, Hannan-Quinn Information criterion etc.

Results of ADF Unit Root Tests on e_{IKt} and p_{IKt} series concerned are being presented through the Table 1.1 below.

It is observed from the ADF Unit Root Test results as presented through the Table 1.1

e_{IKt} and p_{IKt} series contain 'unit roots' and, therefore, these series are 'non-stationary' by nature.

e_{IKt} and p_{IKt} series do not entail any 'deterministic trends', and on the contrary, e_{IKt} and p_{IKt} series contain 'non-stationary' stochastic trends.

Test of Stationary of e_{IKt} and p_{IKt} Through Correlogram Study: The nature of stationarity and integrability of e_{IKt} and p_{IKt} has further been enquired into through the study of their respective correlograms.

The Figures 1.1 and 1.2 present correlograms of e_{IKt} at level and at first difference respectively.

Findings From the Figures 1.1 and 1.3

the ACF is marked by the absence of any dying out pattern of spikes.

no singularly significant large spike appears at the first lag of the corresponding PACF.

These features of the correlogram, as given in the Figure 1.2, confirm that the first differenced series of e_{IKt} is stationary. Consequently, e_{IKt} series is $I(1)$.

the first differenced series for p_{IKt} (i.e., Δp_{IKt}) is stationary, and therefore,

p_{IKt} attains stationarity upon first differencing. Consequently, p_{IKt} is also $I(1)$.

Methodological Issues: Isolating Trend component and cycle component of a series: Beveridge Nelson Decomposition:-

The trend and cycle components of a given time series can be isolated through the Beveridge-Nelson Decomposition procedure which is described below.

Let Y_t and X_t be $I(1)$ DS (Differenced Stationary) series.

The Wold representations for $X_t \sim I(1)$ gives

$$(1-B)X_t = \mu_1 + \varphi_1(B)\varepsilon_{1t} \quad (1.3)$$

where $\varphi_{1k} = O(T^{-k})$ with $|k| < 1$ and $\varphi_1(1) \neq 0$. Then the Beveridge-Nelson Decomposition for X_t is

$$X_t = T_{1t} + C_{1t} \quad (1.4)$$

where T_{1t} is a random walk with drift such that

$$T_{1t} = \mu_1 + T_{1,t-1} + \varphi_1\varepsilon_{1t} \quad (1.5)$$

and C_{1t} is a stationary cycle with Wold representation

$$C_{1t} = \varphi_1^*(B) a_{1t} \\ = \varphi_{10}^* a_{1t} + \varphi_{11}^* a_{1t-1} + \dots$$

Now if X_t is DS with C_{1t} an $AR(p)$ process, then T_{1t} , in the Beveridge – Nelson Decomposition, is given by

$$T_{1t} = \frac{1}{\varphi_1(1)} \varphi_1(B) X_t \quad (1.7)$$

and C_{1t} is an $AR(p)$

$$\varphi_1(B)(1-B)X_t = \varphi_1(1)\mu_1 + a_{1t} \quad (1.8)$$

From (1.5) and (1.6)

$$T_{1t} - T_{1t-1} = \mu_1 + \varphi_1(1)a_{1t}$$

$$\text{Or, } (1-B)T_{1t} = \mu_1 + \varphi_1(1)a_{1t}$$

$$= \mu_1 + \varphi_1(1)[\varphi_1(B)(1-B)X_t - \varphi_1(1)\mu_1]$$

$$\begin{aligned} &= \mu_1 + \frac{1}{\varphi_1(1)} [\varphi_1(B)(1-B)X_t - \varphi_1(1)\mu_1] \\ &= \mu_1 + \frac{\varphi_1(B)}{\varphi_1(1)} (1-B)X_t - \mu_1 \\ &= \frac{\varphi_1(B)}{\varphi_1(1)} (1-B)X_t \\ \therefore T_{1t} &= \frac{\varphi_1(B)}{\varphi_1(1)} X_t \end{aligned} \quad (1.9)$$

Thus T_{1t} represents the Univariate ARIMA (p,d,q) structure of the $X_t \sim I(1)$ series.

The cycle C_{1t} can then be obtained as

$$C_{1t} = X_t - T_{1t} \quad (1.10)$$

Similarly, if Y_t is DS such that

$$(1-B)Y_t = \mu_2 + \varphi_2(B)a_{2t} \quad (1.11)$$

where $\varphi_{2k} = O(\tau^k)$ with $|k| < 1$ and $\varphi_2(1) \neq 0$, then Y_t can be decomposed as

$$Y_t = T_{2t} + C_{2t} \quad (1.12)$$

where T_{2t} is a random walk with drift

$$T_{2t} = \mu_2 + T_{2t-1} + \varphi_2(1)a_{2t} \quad (1.13)$$

and C_{2t} is a stationary cycle with Wold representation

$$C_{2t} = \varphi_2^*(B)a_{2t}$$

$$= \varphi_{20}^* a_{2t} + \varphi_{21}^* a_{2t-1} + \dots \quad (1.6)$$

(1.14)

where $\varphi_{2k}^* = O(\tau^k)$. Now if C_{2t} is an $AR(p)$ process, then

$$T_{1t} = \frac{\varphi_1(B)}{\varphi_1(1)} Y_t \quad (1.15)$$

The cycle C_{2t} can be obtained as

$$C_{2t} = Y_t - T_{2t} \quad (1.16)$$

Now, since X_t is DS, then forecasts of X_{t+k} converge rapidly to a stochastic trend line or more precisely,

$$E_t(X_{t+k}) = T_{1t} + \mu_k + O(\tau^k) \quad (1.17)$$

So, for one period ahead forecast

$$E_t(X_{t+1}) = T_{1t} + \mu + O(\tau) \quad (1.18)$$

The trend line is random and in particular, the intercept T_{1t} is a non-stationary random walk with a drift, given that

$$T_{1t} = \frac{\varphi_1(B)}{\varphi_1(1)} X_t$$

Thus the conditional mean or the forecast for X_t is based on the estimated ARIMA(p,d,q) structure of X_t

$$\text{Now } C_{1t} = X_t - T_{1t}$$

Or

$$C_{1t} = X_t - E_t(X_{t+1})$$

Or

$$C_{1t} = X_t^w \quad (1.19)$$

Since C_{1t} is stationary, X_t^w must be stationary. Again $T_{1t} = E_t(X_{t+1})$ is based on ARIMA (p,1,q) estimates. So X_t^w must be stationary and X_t^w is white noise when $E_t(X_{t+1})$ represents Minimum Mean Squared Error (MMSE) ARIMA (p,1,q) in-sample one-period ahead forecasts for X_t .

By the same analogy,

$$C_{2t} = Y_t - T_{2t} = Y_t^w \quad (1.20)$$

where Y_t^w is stationary and MMSE ARIMA (p,d,q) one-period ahead in sample

forecast for e_{IKt} ensures that e_{IKt} is white noise.

It, therefore, follows that the 'Trend Component' series of a variable can be captured through the in-sample one-period ahead MMSE ARIMA (p,d,q) forecasts. The white-noise forecast residuals, in such case, constitute the 'cycle component' series of the variable concerned.

Isolating trend and cycle components of exchange rate and relative price level:

The *Beveridge- Nelson Decomposition Methodology* stresses upon isolating the 'Trend' and 'Cycle' components of the time series. The 'Trend Component' series is generated through *one-step ahead* in-sample forecast based on the ARIMA (p,d,q) structure of the time series involved. On the other hand, the 'forecast error' series captures the series of the 'cycle component' of the variable concerned. The 'cycle component' series is stationary and, therefore, $I(0)$.

It, therefore, follows that the entire exercise, with respect to isolating 'Trend' and 'Cycle' components of a time series, centers around identifying its Univariate stochastic structure represented by the underlying ARIMA (p,d,q) process.

ARIMA (p,d,q) Structure of e_{IKt} : Univariate stochastic structures of e_{IKt} series has been identified as ARIMA (0,1,0). This means that the first difference time series of e_{IKt} , i.e. of de_{IKt} is stationary without any AR and/or MA structure. So $e_{IKt} \sim I(1)$. Therefore, e_{IKt} defines a random walk-process such that

$$e_{IKt} = e_{IK,t-1} + \varepsilon_t \quad (1.21)$$

where $\varepsilon_t \sim iidN(0, \sigma_\varepsilon^2)$.

Consequently,

$$e_{IKt} - e_{IK,t-1} = \varepsilon_t$$

$$\text{or, } de_{IKt} = \varepsilon_t \sim I(0) \quad (1.22)$$

Equation (1.21) indicates that

$$E(e_{IKt} / \Omega) = E(e_{IK,t-1} / \Omega_t) + E(\varepsilon_t / \Omega_t) \quad (1.23)$$

where

$$\Omega_t = \{e_{IK,t-1}, e_{IK,t-2}, e_{IK,t-3}, \dots\}$$

'Trend Component' Series of e_{IKt} : The in-sample one-period ahead forecast for e_{IKt} , on the basis of its ARIMA(0,1,0) structure, virtually consists in the $e_{IK(t-1)}$ series and this series is $I(1)$. The time plots of the e_{IK} series at level and its corresponding in-sample one-period-ahead forecasts have been presented through the Figure 1.5

Series of 'Cycle Component' of e_{IK}

From (1.21) we have $e_{IKt} - e_{IK,t-1} = \varepsilon_t$ (1.24)

we find that the trend component of e_{IKt} is $e_{IK,t-1}$. Therefore, ε_t represents the 'Cycle Component' of e_{IKt} . Again from the equation (1.21) and (1.23)

$$\begin{aligned} \varepsilon_t &= e_{IKt} - e_{IK,t-1} \\ &= e_{IKt} - E(e_{IKt} / \Omega_t) \end{aligned} \quad (1.25)$$

Therefore, ε_t represents the 'forecast residuals'. This further indicates that the ε_t series represents the series of 'Cycle Component' of e_{IKt} series and this series virtually represents the series of forecast residuals. The time plot of the forecast residuals i.e. the series of 'Cycle Component' of e_{IKt} is given by the Figure

1.6. Again The Correlogram of the forecast residuals is given by the Figure 1.7.

It is observed from the correlogram that forecast residuals are stationary and therefore, $\mathcal{E}_t \sim I(0)$ and the ACF is free from significant spikes. So \mathcal{E}_t is white noise.

ARIMA(p,d,q) Structure of p_{IKt}
Univariate stochastic structures of p_{IKt} has been identified as ARIMA (1,1,0). p_{IKt} is found to be 'non-stationary' and the first difference series of p_{IKt} i.e.

$dp_{IKt} = p_{IKt} - p_{IK,t-1}$ series is stationary. So $p_{IKt} \sim I(1)$. The dp_{IKt} series is found to entail an AR(1) structure. The estimated equation is given by the Table 1.2.

The residuals of the estimated ARIMA (1,1,0) equation are found to be stationary.

Series of 'Time Component' of P_{IKt} : The in-sample one-period –ahead forecast for P_{IKt} on the basis of its ARIMA (1,1,0) structure, represents time series of 'time component' of P_{IKt} . The time plots of the P_{IKt} series at level and its corresponding in-sample one –period forecast are being presented through the Figure 1.8

Series of 'Cycle Component' of P_{IKt} : The forecast residual represent the 'Cycle Component' of P_{IKt} and the series of the forecast residual represents the series of the Cycle Component' of P_{IKt} series. The time plot of the forecast residual series is being presented through the Figure 1.9 and the Correlogram of the forecast residual series is given by the Figure 1.10.

The correlogram in Figure 1.10 indicates that the forecast residuals series

is stationary and, therefore, $I(0)$. Moreover, ACF of the series is free from any significant spike at any lag. So the cycle series is 'white noise'.

Study of cointegration between rupee/pakistani Rupee exchange rate and relative price level:- An alternative approach with Beveridge-Nelson Decomposition through Johansen Cointegration Tests : The Johansen Cointegration Tests of 'Trend Components' of e_{IKt} and p_{IKt} are used instead of the observed series at level. The results of such tests are being presented through the Table 1.3.

for the null-hypothesis $r = 0$ against the alternative hypothesis $r > 0$, $\lambda_{\text{trace}}(0) = 2.486$ is lower than the corresponding 5% and 1% critical values. Therefore, the null-hypothesis of 'no cointegrating' relation cannot be rejected even at 5% level.

for the null-hypothesis $r \leq 1$ against the alternative hypothesis $r > 1$, the value of $\lambda_{\text{trace}}(1)$ statistic is 0.001 which is lower than 1% and 5% critical values. So the null hypothesis of $r \leq 1$ cannot be rejected even at 5% level.

for the null hypothesis $r = 0$ against the alternative hypothesis $r = 1$ under λ_{max} test, $\lambda_{\text{max}}(0,1)$ value is 2.485. It is lower than the corresponding 5% and 1% critical values. It implies that the null hypothesis of 'no cointegration' cannot be rejected at even 5% level.

for the null hypothesis $r = 1$ against the alternative hypothesis $r = 2$ under λ_{max} test, $\lambda_{\text{max}}(1,2) = 0.001$ falls short of the corresponding critical values at 5% and 1% levels. Consequently, the null hypothesis of 'no cointegration' between the

variables appears to be accepted at even 5% level.

Structural Breaks in the Historical Dataset:

The historical dataset (1976:1-2008:3) used in our study is found to contain two sub-periods giving forth two distinct relations between exchange rate (e_{IKt}^f) and relative price level

(p_{IKt}^f). The first sub-period ranges from 1976:1-1993:2 and the second sub-period extends from 1993:3-2008:3.

The Johansen Cointegration Tests For the Sub-Periods 1976:1-1993:2:

Results of the *Johansen Cointegration Tests* for e_{IKt}^f and p_{IKt}^f at level over the sub-period 1976:1-1993:2 are being presented through the Table 1.4 .

Finding From The Table 1.4 Results of the *Johansen Cointegration Test*, as given in the Table 1.4, show that in the sub-period 1976:1-1993:2

for the null hypothesis $r=0$ against the alternative hypothesis $r>0$, $\lambda_{\text{trace}}(0)=2.651$ is lower than the corresponding 5% and 1% critical values. It is not, therefore, possible to reject the *null hypothesis* of 'no cointegration' between e_{IKt}^f and p_{IKt}^f at level even at 5% level of significance.

for the null hypothesis $r\leq 1$ against alternative hypothesis $r>1$, the value of $\lambda_{\text{trace}}(1)$ statistic is 0.905 which is lower than 1% and even 5% levels of significance. So the *null hypothesis* of $r\leq 1$ cannot be rejected even at 5% level.

for the null hypothesis $r=0$ against alternative hypothesis $r=1$, under λ_{max} test, $\lambda_{\text{max}}(0,1)$ value is 1.746. It is clearly lower than the

corresponding 1% and 5% critical values. It implies that the *null hypothesis* of 'no cointegration' between e_{IKt}^f and p_{IKt}^f cannot be rejected even at 5% level.

for the null hypothesis $r=1$ against the alternative hypothesis $r=2$, under λ_{max} test, $\lambda_{\text{max}}(1,2) = 0.905$ falls short of the corresponding critical values at 5% and 1% levels. Consequently, the *null hypothesis* of 'no cointegration' between e_{IKt}^f and p_{IKt}^f appears to be accepted at even 5% level.

Johansen Cointegration Tests for The Sub-Period 1993:3-2008:3:

The *Johansen Cointegration Test* results for both of the *Trend component series* of exchange rate (e_{IKt}^f) and relative price level (p_{IKt}^f) over the Sub-Period 1993:3-2008:3 have been presented through the Table 1.5 .

Finings From The Table 1.5 observed that over the sub-period 1993:3-2008:3 in case of the *Johansen Cointegration Tests*

for $r=0$ against $r>1$, $\lambda_{\text{trace}}(0)=13.098$ exceeds the corresponding critical value at 5% level. This implies that the null hypothesis of the 'absence of cointegration' ($r=0$) between e_{IKt}^f and p_{IKt}^f at level has been rejected at 5% level.

for $r\leq 1$ against $r>1$, $\lambda_{\text{trace}}(1)= 2.569$ falls short of the corresponding critical value even at 5% level. This implies that the '*null hypothesis of not more than 'one cointegrating relation'*' is accepted even at 5% level.

for $r=0$ against $r=1$, $\lambda_{\text{max}}(0,1)=10.529$ exceeds the corresponding critical value at 5% level of significance. Therefore, the

null hypothesis of non-existence of cointegration between the variables (e_{IKt}^f and p_{IKt}^f) is not accepted at 1% level.

for $r=1$ against $r=2$, $\lambda_{\max}(1,2)=2.569$ falls short of the corresponding critical value even at 5% level. Consequently, the *null hypothesis of the existence of only one cointegrating relation* appears to be accepted even at 5% level.

Dynamics of short-run shocks and the stability of long-run relationship between trend component of exchange rate (e_{IKt}^f) and relative price level (p_{IKt}^f) in the second sub-period (1993:3 – 2008:3)

Cointegration study confirms the existence of long-run relationship between Rupee / Pakistani Rupee exchange rates and relative price levels prevailing in India and Pakistan over the sub-period 1993:3 – 2008:3. It becomes then imperative to examine if such relationship were stable. The long-run relationship becomes *stable* if the innovations or shocks transmitted through the channels of exchange rate (e_{IKt}^f) or relative price level (p_{IKt}^f) converge and dissipate before long. The *stability* of the long-run relationship is studied through the estimation of a relevant *Vector Error Correction Model* (VECM) for the variables concerned.

The Vector Error Correction Model (VECM): The estimable relevant *Vector Error Correction Model* for e_{IKt}^f and p_{IKt}^f over the sub-period 1993:3 – 2008:3 consists of the following equations.

$$\Delta e_{IKt}^f = \alpha_1 + \rho_1 z_{t-1} + \beta_{21} \sum_{i=1}^m \Delta e_{IKt-i}^f + \gamma_{21} \sum_{i=1}^m \Delta p_{IKt-i}^f + v_t \quad (1.26)$$

$$\Delta p_{IKt}^f = \alpha_2 + \rho_2 z_{t-1} + \beta_{21} \sum_{i=1}^m \Delta e_{IKt-i}^f + \gamma_{21} \sum_{i=1}^m \Delta p_{IKt-i}^f + v_t \quad (1.27)$$

Δe_{IKt}^f = First Differenced Series of e_{IKt}^f at time $t-i$; $i=1,2,\dots,m$

Δp_{IKt}^f = First Differenced Series of p_{IKt}^f at time $t-i$; $i=1,2,\dots,m$

z_{t-1} is the *error correction term* since the *Johansen Cointegration Tests* confirm the existence of *only one Cointegration Equation* between e_{IKt}^f and p_{IKt}^f .

The VEC Model, consisting of the equations (10.1) and (10.2), has been estimated for the sub-period 1993:3 – 2008:3. Results of the estimation are being presented through the Tables (1.6) and (1.7).

Findings From the VECM Estimation is observed from the Table 1.6 that

$\hat{\rho}_1$, being insignificant even at 10% level, indicates that short-run shocks, transmitted through the channel of exchange rate fail to affect the long-run relationship which exchange rate maintained with relative price level.

$\hat{\gamma}_{12}$ being significant (at 5% level) in the presence of Δe_{IKt-i}^f

($i = 1, 2$) in the vector of regressions for Δe_{IKt}^f , indicates that relative price level Δp_{IKt}^f *Granger Caused* exchange rate in the short-run over the period of study.

Again $|\hat{\gamma}_{13}| < 1$ indicates that two period back relative price levels led to less than proportionate change in exchange rate.

$\hat{\gamma}_{12} < 0$, again indicates that exchange rate declined following two, back rise in relative price level. This may apparently be in contradiction with the proposition of *Purchasing Power Parity Doctrine*. In PPP theory, e_{IKt}^f is directly related to p_{IKt}^f . So rise in relative price $\frac{P_{India}}{P_{Pakistan}}$ means a fall in the purchasing power of Indian currency leading to depreciation of Indian currency.

Findings from the VECM Estimation (Table 1.7) shows that

$\hat{\rho}_2$, the coefficient of Z_{t-1} in the equation 10.2, is significant even at 1% level. This indicates that the short-run shocks, transmitted through the relative price level channel, did significantly affect the long-run relationship which exchange rate maintained with relative price level.

$\hat{\rho}_2$ being significant indicates that, given the positive relationship between exchange rate and relative price level, relative price level rises in order to raise exchange rate when it falls below the *target rate*.

$\hat{\gamma}_{22} < 1$ is significant at 5% level. This implies that variations in current relative inflation rate are less than proportionately related to those in two period back inflation rates.

$\hat{\beta}_{2i}$ ($i=1,2$) are not significant even at 10% level. These imply that variations in relative price level are

not 'Granger Caused' by those in exchange rates in the short-run.

SUMMARY, CONCLUSION AND POLICY IMPLICATIONS

All these findings give forth some basic fundamental features of the relations between Rupee / Pakistani Rupee exchange rate and relative price level over the period of study 1976:1 - 2008:3. *Absence of long-run relationship between Exchange Rate (e_t) and Relative Price Level (p_{IKt}) in the Historical Dataset.*

Unfailing Maintenance of Purchasing Power Parity Doctrine over the sub-period 1993:3-2008:3. Bi-directional Granger Causality from Relative Price Level to Exchange rate in the second sub-period. The 'Purchasing Power Parity Doctrine' was not valid during (1976:1 -1993:2) when 'Crawling Peg System' was operative in both India and Pakistan. The 'Purchasing Power Parity, Doctrine' was valid during (1993:3 -2008:3) when 'Market Determination Systems' was operative in the countries concerned. Exchange rate was "Granger Caused" by relative price level during the period (1993:3 -2008:3).

Terms of Trade became 'neutral' and favourable for the expansion of trade during 1993:3 – 2008:3. Expansion of bilateral trade between two countries becomes possible when 'trade creation' materializes but 'trade diversion' does not take place. It happens when 'terms of trade' become 'neutral' in the sense that these do not unduly favour any trade partner at the cost of another. But 'terms of trade' become 'neutral' when real exchange rates remain constant over time. Rupee/Pakistani Rupee exchange rates failed to be in parity with the relative purchasing power of currencies concerned during 1976:1-1998:3 when 'Crawling Peg System' of exchange rate determination which prevailed in both India and Pakistan. Under this system, market forces were not allowed to

determine the equilibrium exchange rate. On the contrary, exchange rates were determined through interventions from the respective monetary authorities concerned.

Under the 'Crawling Peg system' exchange rates deviated from the equilibrium level and terms of trade failed to be 'neutral'. This hindered the expansion of bilateral trade. However, as soon as market forces were allowed to determine the equilibrium exchange rates, terms of trade become 'neutral' which paved the way for the expansion of bilateral trade between India and Pakistan.

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APPENDIX

Table 1.1 Stationarity and integrability of Exchange Rate (e_{IKt}) and Relative Price Level(p_{IKt}) [Period: 1976:1-2008:3]

Series	Exogenous	ADF Test Stat.	Lag(s)	Prob.
e_{IKt}	Constant, Trend	0.616	0	0.976
p_{IKt}	Constant, Trend	-2.714	0	0.232
Δe_{IKt}	Constant	-10.96	2	0.000
Δp_{IKt}	Constant	-13.13	0	0.000

Figure - 1.1

Correlogram of Rupee/ Pakistan Rupee Rupee(e_{IKt})Level [Period:1976:1-2008:3]

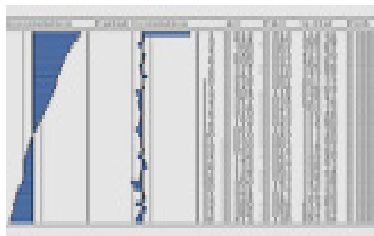


Figure - 1.2

Correlogram of Rupee/ Pakistan Rupee Rupee at(Δe_{IKt}) [Period: 1976:1-2008:3]

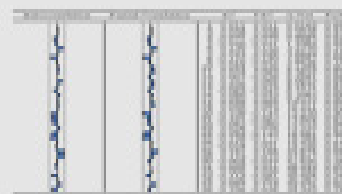


Figure - 1.3

Correlogram of Relative Price Level (p_{IKt})Level[Period: 1976:1-2008:3]

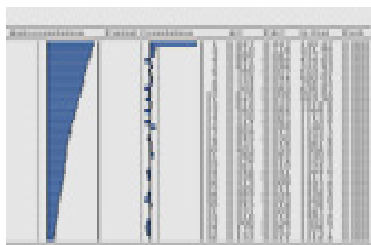


Figure - 1.4

Correlogram of Relative Price Level (Δp_{IKt}) at [Period: 1976:1-2008:3]

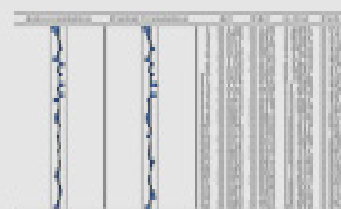


Figure –1.5

Time Plots of e_{IKt} series at level and the series of Forecast for e_{IKt}

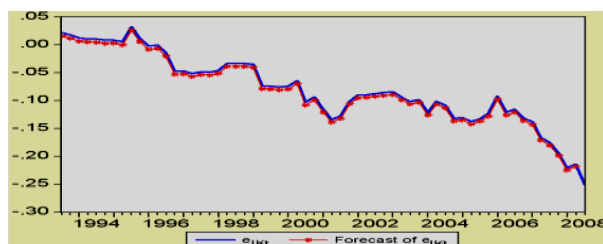


Figure - 1.6
Time Plot of the Series of 'Cycle
Component' of e_{IKt}

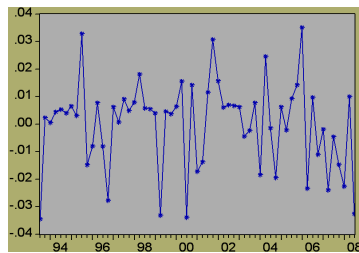


Figure - 1.7
Correlogram of Residual Forecast
of e_{IKt}

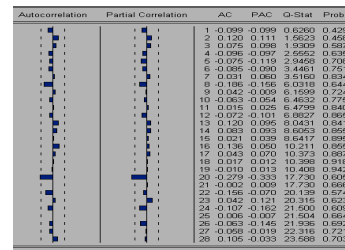


Table - 1.2
Estimated AR(1) Structure of dp_{IKt}

Variable	Coefficient	S.E	T-Stat.	Prob.
dp_{IKt-1}	0.267	0.126	-2.111	0.029
C	-0.003	0.002	-1.974	0.050
$R^2 = 0.940$ $Adj R^2 = 0.939$ $F \text{ Stat.} = -4.456$ $AIC = -5.677$ $SIC = -5.608$				

Figure - 1.8
Time Plot of P_{IKt} series at level and the series of Forecast for P_{IKt}

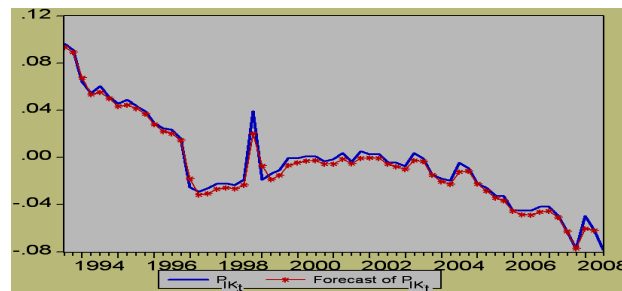


Figure - 1.9
Time Plot of Forecast Residuals
(with respect to P_{IKt})

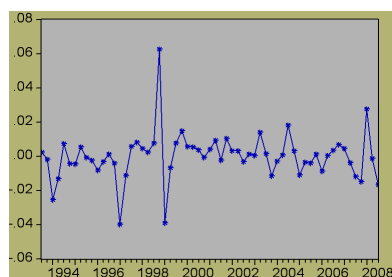


Figure - 1.10
Correlogram of Forecast Residuals
(with respect to P_{IKt})

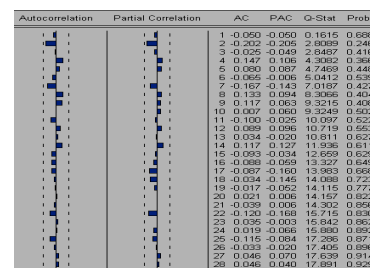


Table 1.3

Results of Johansen Cointegration Tests for Trend Component of e_{IKt} and p_{IKt} [e_{IKt}^f and p_{IKt}^f] [Period 1976:1 –2008:3]

Trend Assumption: No Intercept, No TrendLag Intervals : 1 2

I Unrestricted Cointegration Rank λ_{trace} Test Variables Involved: e_{IKt}^f and p_{IKt}^f at Level					
Null Hypothesis	Alternative Hypothesis	Eigen Value	Trace Statistics(λ_{trace})	Critical values	
				5%	1%
$r=0$	$r>0$	0.019	2.486	12.53	16.31
$r\leq 1$	$r\geq 1$	8.55E-06	0.001	3.84	6.51
II Unrestricted Cointegration Rank λ_{max} Test Variables Involved: e_{IKt}^f and p_{IKt}^f at Level					
Null Hypothesis	Alternative Hypothesis	Eigen Value	Max Eigen Stat. (λ_{max})	Critical Values	
				5%	1%
$r=0$	$r=1$	0.019	2.485	11.44	15.69
$r\leq 1$	$r=2$	8.55E-06	0.001	3.84	6.51

Table - 1.4

Results of the Johansen Cointegration Tests for e_{IKt}^f and p_{IKt}^f at Level
Sub-Period: 1976:1-1993:2

Trend Assumption: No Trend, No Intercept Lag Interval in first difference: 1 2

I Unrestricted Cointegration Rank λ_{trace} Test Variables Involved: e_{IKt}^f and p_{IKt}^f At Level					
Null Hypothesis	Alternative Hypothesis	Eigen Value	Trace Statistic (λ_{trace})	Critical Values	
				5%	1%
$r=0$	$r>0$	0.026	2.651	12.53	16.31
$r\leq 1$	$r>1$	0.013	0.905	3.84	6.51
II Unrestricted Cointegration Rank λ_{max} Test Variables Involved: e_{IKt}^f and p_{IKt}^f At Level					
Null Hypothesis	Alternative Hypothesis	Eigen Value	Maximum Eigen Statistic (λ_{max})	Critical Values	
				5%	1%
$r=0$	$r=0$	0.026	1.746	11.44	15.69
$r=1$	$r=2$	0.013	0.905	3.84	6.51

Table - 1.5

Results of the Johansen Cointegration Tests for e_{IKt}^f and p_{IKt}^f at Level Sub-Period:
1993:3-2008:3

Trend Assumption: No Trend, No InterceptLag Interval in first difference: 1 2

I Unrestricted Cointegration Rank λ_{trace} Test Variables Involved: e_{IKt}^f and p_{IKt}^f At Level					
Null Hypothesis	Alternative Hypothesis	Eigen Value	Trace Statistic (λ_{trace})	Critical Values	
				5%	1%
$r=0$	$r>0$	0.166	13.098	12.53	16.31
$r\leq 1$	$r>1$	0.043	2.569	3.84	6.51
II Unrestricted Cointegration Rank λ_{max} Test Variables Involved: e_{IKt}^f and p_{IKt}^f At Level					
Null Hypothesis	Alternative Hypothesis	Eigen Value	Maximum Eigen Statistic (λ_{max})	Critical Values	
				5%	1%
$r=0$	$r=1$	0.166	10.529	11.44	15.69
$r=1$	$r=2$	0.043	2.569	3.84	6.51

Table - 1.6
Dynamics of Short-Run Shocks and The Stability of Long-Run
Relationship Between Trend Component of Exchange Rate and Relative Price Level
in The Second Sub-Period (1993:3 – 2008:3)

Dependent Variable Δe_{IKt}^f			
Parameters	Estimates	S.E	t-stat.
α_1	-0.004	0.002	-2.016
Z_{t-1}	-0.032	0.027	-1.184
Δe_{IKt-1}^f	-0.050	0.133	-0.372
Δe_{IKt-2}^f	0.065	0.130	0.499
Δp_{IKt-1}^f	0.243	0.191	1.270
Δp_{IKt-2}^f	-0.375	0.197	-1.901

Table - 1.7
Dynamics of Short-Run Shocks and The Stability of Long-Run
Relationship Between Trend Component of Exchange Rate and Relative Price Level in
The Second Sub-Period (1993:3 – 2008:3)

Dependent Variable Δp_{IKt}^f			
Parameters	Estimates	S.E	t-stat.
α_2	-0.002	0.001	-1.503
Z_{t-1}	0.049	0.017	2.824
Δe_{IKt-1}^f	0.150	0.085	1.761
Δe_{IKt-2}^f	0.122	0.083	1.470
Δp_{IKt-1}^f	0.023	0.122	0.188
Δp_{IKt-2}^f	-0.234	0.126	-1.856

Financial Forecasting and Corporate valuation of Federal Express Corporation

Tarek El Shahawy
MBA student,
NYIT, Abu Dhabi Campus, UAE

Dr. K. Ravichandran
Associate Professor,
NYIT, Abu Dhabi Campus, UAE

Abstract

There are several ways to value a company, the most famous and classical approaches of valuation are Discounted Cash Flow and EPS build-up projections. In this report more recent model is used, that was constructed by Stern Stewart consulting; which is named Economic Model or Economic Value Added model (EVA and MVA). In this research paper we have intended to a corporate valuation on FedEx Corporation. The objective is to assess the expected impact of financing decisions responding to different estimated market scenarios to see the impact on earnings and shareholder's value. It is found that there was a significant increase in the confidence level of the shareholders and FedEx has demonstrated its value by maximizing the shareholders' value.

Key Words: *Economic Value added, Market Value Added, Financial Analysis, shareholders value maximization.*

FedEx CORPORATION – OVERVIEW

FedEx Corporation is a global logistics solutions corporation that provides e-commerce business services to customers and businesses worldwide in the form of express delivery of shipments. Currently headquartered in Memphis-Tennessee, FedEx Corporation was originally incorporated in Delaware on October 2, 1997 to serve as the parent holding company with an objective to provide strategic direction to four subsidiaries ; FedEx's subsidiary companies currently known as FedEx Express, FedEx Ground, FedEx Freight, and FedEx Services. The four business subsidiaries are working in arm's length and considered separate entities that compete collectively and operate independently under FedEx brand.

FedEx corp. is currently global leader in the express delivery business that offers delivery to individuals and businesses in 220 countries through

operating platform of networks across the globe, managing 160,700 employees, 52,400 drop locations, 647 aircrafts and 54,100 vehicles/trailers in order to deliver effective logistic solutions.

The brand that is currently known as Federal Express, is rooted back to 1970; as it was originally founded by Frederick W. Smith; current chairman, President and CEO; based on an idea presented in economics working paper during his undergraduate study at Yale University .Afterwards, Smith continued to evolve his idea about developing more reliable and efficient delivery service; till he came up with the name Federal Express for his new business that was incorporated in 1971.

FedEx officially began operations on April 17, 1973 with delivery of 186 packages. Then, the founder decided to move the company's headquarters from Arkansas to Memphis due to weather and geographic related advantages. By 1975,

the company was finally able to generate profits with ongoing operations of delivering 19,000 average packages per day. Across the years, FedEx management has been successfully able to generate innovative ideas, benefit favorable market conditions and capture lucrative opportunities in a way that enables it to expand its operations at an accelerated rate. In other words FedEx has the ability to benefit from all variables and dynamics in the industry and put it in its favor. Therefore, successful operations and adaptability of FedEx's management to market challenges and opportunities placed it; starting early 1990s; as a market leader that holds 43% share of the express delivery market; compared to 26% market share of its nearest and largest competitor UPS.

The economic slowdown of 2007–2010 had a strong impact on FedEx in terms of revenues, as many customers looking for cost-cutting practices have either reduced their shipping transactions or moved to other cheaper alternatives, such as ground freight and sea shipping. In turn, FedEx applied a deep rooted restructuring plan that enables it to survive the recession pressures on the logistics business. Such restructuring plan includes large network capacity reductions with retiring some of the oldest and inefficient aircrafts in addition to announcing layoffs and work hour reductions at some of its hubs; moreover, the company implemented temporary pay freezes, eliminated retirement fund contributions and bonuses for employees.

Starting 2012, economic slowdown pressures started to ease. According to FYE 2013 figures, FedEx was able to grow revenues by 4% with recording total revenues of USD 44.3Bn generated from USD 33.6 Bn total assets whereby 48% is financed through debt and 52% is financed through equity in FYE 2013.

LITERATURE REVIEW

Most researches done on shareholders' value creation have mostly concerned with comparison of traditional indicators like earnings, discounted cash flow, IRR .etc.) . However, value based measures EVA is more concerned with economic value added as a percentage of operating capital invested. The purpose of such approach was introduced to identify the most significant factor that better measures the shareholder value. Existing literature touching the points of shareholder's value is considered in growing phase. Currently, most corporate analysts in different industry sectors are using EVA approach as benchmark and key indicator of their investment recommendations. In this project, review has been done to exercise the application of EVA generated from expected cash flow and invested capital estimations for the valuation of a company in the freight transportation business by going through independent components of the calculation like NOPAT, FCF, WAAC and MVA.

Malíková, Olga; Brabec, Zdeněk (2012) talks about how to seek the most efficient investment opportunity in today's financial market. The best way to perform the analysis on a company to evaluate its efficiency is through studying the financial statements and performing a financial analysis on it. The results of the ratios are influenced by the presumption related to the financial statements that have been prepared. Lan, Z. Joe (2012) says that financial statements can be used to analyze the company's position in the market and its performance using the statements as tools to measure how financially the company is stable. The Analysis is going to be made on the three most important financial statements applicable for investment research are reportedly the income statement, the balance sheet, and cash flow statement. A

completed transaction links all three statements.

Sharma, Anil K.; Kumar, Satish; Singh, Ramanjeet (2012) reveals that value relevance of financial statements, is negligible in Indian markets. However, some ratios based on these financial statements show significant association with stock market indicators. The results depart from financial studies conducted in other markets. The results further indicate that the value relevance of Return is statistically significant and is a useful measure for investment decision. ROMIC, LIDIJA (2011), financial statements are meant to be understood by readers who are knowledgeable of the economic activities and accounting strategies in the business world.

FORECASTING OF OPERATING CASH FLOW

Conceptualizing the mechanism of considering the findings of operating cash flow as a base for estimating future financial performance has been the core study of several researchers. Dechow et al. (1998), identified that cash-flows forecasting accuracy is a function of its operating cycle nature, for a reason that the business nature affecting the components of cash flow like; quality of receivables collection, inventory holding period and operating profitability margins has a significant effect on the quality of the cash flow estimation. Later, Telmoudi et al. (2010) has done an attempt to test the relation between operating cycle elements and the cash flow estimation. Dechow and Telmoudi works demonstrated the importance of cash flow elements on the future pattern of operating cash flows. They established a correlation between operating cash flows and four major variables; namely, timeliness of debt collection, gross margin, timeliness of stock flow and timeliness of debt payment.

The importance of the components affecting the operating cycle in estimating cash flows has been proved by the financial data and the forecasted recurring in accruals. In fact, accruals are outputs of cash flow rather than a cash flow generator by itself. Such accruals like depreciation, provisions, spontaneous finance, accrued but un-invoiced revenues or expenses have a relevant effect on working capital requirements during the operating cycle.

Rationale for estimating cash flow of different Industry segment;

Several researchers have identified the distinction of cash flow different indicators when estimating the future cash flow of different industries. Different cash flow components prediction rationales has been used as basis of prediction, examples of these rationales are; net income before extraordinary items and discontinued operations, Net Income plus depreciation, operating cash flow adjusted by related changes in earnings related to working capital, Cash flow from operations as reported in cash flows statement, net change in cash during the year. Brooke Young from University of Nebraska at Kearney has done a study for testing the suitability of different cash flow prediction rationales to better estimate future cash flow of high tech industry companies versus retail industry companies. Study found that the best predictor of future Operating cash flow of high tech industry was operating cash flow adjusted by related changes in earnings related to working capital. On the contrary, for Retailing Industry, Net Income plus depreciation is a better indicator to predict the cash flow performance of companies working in that sector.

EVA & ROC comparison across publicly traded companies

An exercise that has been illustrated in measuring corporate

performance lecture by McGraw Hill publishers was done to compare the ROC and EVA of publicly listed companies in different sectors as of July 2010.

As shown in table 1, the comparison ranked ExxonMobil as top performer with USD 17.5Bn EVA and 15.7% ROC compared to FedEx that recorded EVA of -241 and 5.3% ROC.

OBJECTIVE OF STUDY

Corporate valuation model discussed in this paper is aimed to assess the effect of management practices on the expected cash flow and related impacts on the market value of the company with ultimate reflection on shareholder's value.

RESEARCH METHODOLOGY

Methodology used to assess the value of the company and related impact on shareholder's value is to select a public listed company with multi-national operation and access Bloomberg database and company's investor relations web portal to collect 3 most recent income statements and balance sheets.

Then, using MS excel to compute five years forecast of Free Cash flow, Return on Invested Capital, Economic Value Added and Market Value Added with applying three different earnings scenarios.

CORPORATE VALUATION THEORY

There are two classic ways to value a stock. The most commonly used model is probably the one in which investors project next year's EPS (or cash flows, EBITDA, free cash flow, or sales) and assign a multiple to that number. The second one is the good old Discounted Cash Flow (DCF) model. Finally, there is a more recent one, the Economic Model or Economic Value Added model (EVATM, EVATM and MVATM are trademarks of the consulting firm Stern Stewart).

After researchers reviewed the

practicality of each model, they come to a conclusion that Economic valuation Model provides better view of the company's value by factoring value creation financial practices with linking the impact to market stock prices. In this report, the basic concepts of the Economic Model: ROIC, WACC, EVA and MVA will be used to assess the value creation practices of FedEx during FY period 2010-2012.

RESULTS INTERPRETATION

Estimated Cash Flow & Corporate Valuation Analysis, Building Blocks – FedEx Corporation.

With 3 scenarios and 5 years forecast of FCF, ROIC, WACC, EVA and MVA, FedEx's EVA Model is mostly complete as explained below.

Scenario I : Forecast 10% growth in sales & 5% growth in Operating Expense (appendix).

During the period of 2010 to 2012, FedEx shows a steady increase in NOPAT on the back of profitable operations, revenue increase and controlling OPEX that lead to continuous increase in EBIT.

During testing period FedEx showed an uptrend in the Net Operating Working Capital as a result of the increase in operating current assets; namely cash items and acc. receivable; at a higher rate than the operating current liabilities.

Total operating capital has shown a YOY increase by 9.4% in 2010/2011 and 11.5% in 2011/2012 on the back of the increase in net operating fixed assets by USD 1.82Bn in 2011 and USD 2.43Bn in 2012 in addition to the increase in the net operating working capital (NOWC) by USD0.66Bn in 2011 and USD0.73Bn in 2012. Hence, FYE 2012 recorded Net operating Capital of USD23.62Bn.

During 2011 and 2012 FedEx showed a negative NOPAT coverage to

Net Investment Operating Capital (i.e. Negative FCF). From the first look it can be seen as negative indicator; however, after overlooking the breakdown of the invested capital we found that NOC has 11% and 12% cash component in 2011 and 2012 respectively, moreover profitable operations as well as higher returns has encouraged the management to have self-financed asset replacement plans beyond the regular annually generated NOPAT.

EVA

Absolute growth is not always good. It all depends on how the company managed to fuel its growth. Companies will likely invest more capital in order to expand. However, if the growth in

NOPAT is the result of business transactions with ROICs below WACC, it destroyed value rather than creating it.

While FedEx grew its NOPAT by 21% in 2010/2011, it nonetheless reduced value because its ROIC (7.39%) has gone lower than its WACC (9.07%) for the same year that resulted in a negative EVA of USD356Mn. However, for 2011/2012, FedEx was able to rectify its EVA position to show positive USD58Mn as result of an enhanced ROIC (8.79%) that is higher than same period WACC (8.55%). Hence, economic value addition objective was attained during 2012.

EVA was achieved by FedEx financing managers in 2012 through the following dynamics:

Increasing NOPAT at a higher than usual rate (32.7%) as a result of focus on business operations that generates higher yield with better control over associated costs.

Reducing cost of debt from 3.35% in 2011 to 2.7% in 2012 as a result of LTD reduction from USD 1.7Bn in 2011 to USD 1.3Bn in 2012.

Reducing the cost of equity by decreasing the payout ratio from 10% to 8% that resulted in a reduction in K_e from 9.07% in 2011 to 8.55% in 2012.

Control the Increase in the invested operating capital at a growth rate that ultimately keeps the company within the acceptable ROIC benchmark.

After calculating MVA formula and rechecking all FCF, NOIC and EVA indicators, it is not surprising to see why FedEx is traded at higher price than the book value of its equity with average multiple of 1.92x during the assessed period 2010-2012. Whereby, positive MVA shows that the company is considered a value accumulator rather than value leaker.

Scenario Run – Summary, Forecasted Corporate Valuation Analysis Scenario I : During forecasted period of 2013 to 2017, FedEx is expected to show a steady increase in revenues by 10% and 5% increase in operating expense that was reflected in an increase FCF position with high ROIC that reached 38.88% in 2017. Same, if optimistically happened, will result in a MVA of USD 152Bn and stock price of USD 538.49 at 14X P/E multiple.

Scenario II : During forecasted period of 2013 to 2017, FedEx is expected to show a steady increase in revenues by 5% and 3% growth in operating expense that is reflected in an increase FCF position with high ROIC at relatively lower rate than earlier scenario ; whereby , ROIC reached 20.23% in 2017. Same, if happened, will result in a MVA of USD 65Bn and stock price of USD 258.99 at 14X P/E multiple.

Scenario III : During forecasted period of 2013 to 2017, FedEx is expected to show increase in revenues by 5% and 3% growth in operating expense with 1% increase in interest rate that increase the WACC slightly as given below. By applying

the three more realistic assumptions an expected increase in FCF is expected to come in place to reach USD 20.25 in 2017 and expected ROIC of 20.25% in 2017. Same, will result in a huge market value (MVA) addition of USD 65Bn that will impact the stock price to reach USD 258.44 at 14X P/E multiple if other debt and equity consideration remain unchanged.

SUMMARY & CONCLUSION

During historical years of study FedEx management shown that it has been always committed to add value to its shareholders, given all the economic slowdown challenges. In 2012, earnings per share that increased by 40 percent and annual revenues passed USD42Bn, 9% YOY increase. Effective finance decision making has enabled FedEx to enhance its NOPAT by 33% in 2012; while controlling the operating capital growth at a lower rate of 11%, which triggered an increase in ROIC to reach 8.79% compared WACC of 8.55%.

FedEx management's vision, leadership, prudent financial decisions in addition to commitment to deliver value to shareholder has been largely reflected on its value creation indicators. During 2012, EVA and MVA showed positive a figure of USD58Mn and UAD13.53Bn respectively. Whereby, it showed average market to book multiple of 1.92x.

Consequently, the expectation to maintain an outstanding performance in the future was considered in the cash flow five years estimation run. Whereas, the most realistic estimated Cash flow scenario is number III; that expects 5% sales growth, 3% operating expense increase and 1% interest rate escalation that will foresee an increase in stock price to reach USD 125.93 in 2013 (compared to USD 89.14 in 2012) with probability to reach USD 258.44 on 2017 if debt and equity

projection assumptions remain unchanged.

In conclusion, FedEx has proved that it can respond effectively in difficult times. Management tools in the form of providing world-class delivery solutions, enhancing network platform and continuous innovation at all operating levels supported by acumen financial decisions in the form of well-planned asset replacements and efficient growth dynamics in 2012. Same has significantly increased the confidence level to continue maintaining high quality value addition practices to satisfy the shareholders; as shown in the positive expected EVA & MVA and also signaled by expected high ROIC (between 10.48% and 20.25%) which outweighed historical WACC (8.55%). In other words, FedEx need to invest USD 100 for each USD 10.5 generated as NOPAT in 2013; that is considered relatively high when compared to complexity of operations, size of revenues and capital intensive nature of the assets (i.e. aircraft fleet).

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Appendix 1, Tables

Table 1: EVA & ROC comparison across publicly traded companies

	1. Operating income*	2. Cost of Capital, %	3. Total Capitalization	4. EVA = 1 – (2 × 3)	ROC, %, = 1 ÷ 3
ExxonMobil	28,641	5.8	182,424	17,586	15.7
Walmart	15,396	5.2	129,374	8,639	11.9
Johnson & Johnson	11,952	7.1	73,778	6,638	16.2
Coca-Cola	7,093	5.5	35,643	4,943	19.9
Google	6,577	12.0	16,483	4,788	39.9
FedEx	952	6.4	17,954	-241	5.3
JCPenney	465	6.5	12,234	-330	3.8
Dow Chemical	2,638	5.7	56,129	-526	4.7
Xerox	712	9.6	21,326	-1,091	3.3
AT&T	16,779	8.2	250,440	-3,760	6.7

Table 2: Methodology Abstract

Objective	Apply 5 years Forecast of cash flow with 3 different earnings scenario to Assess the expected economic value added to corporate value and related impact on shareholder's value
Company	FedEx Corporation "Publicly listed company with multi-national operation"
Tools used	<ul style="list-style-type: none"> - Bloomberg database - FedEx Investor relation web portal http://investors.fedex.com - Industry Journals from http://search.ebscohost.com/ - Microsoft Excel to apply projections and compute valuation ratios.
Analysis Used	- Assess Actual and Forecasted ratios of FCF, ROIC, EVA, and MVA.

Appendix 2, Building the Blocks of Valuation

Return on Invested Capital (ROIC)

ROIC = NOPAT / Operating Capital

NOPAT

Operating Capital

ROIC %

FY 2010	FY 2011	FY 2012
1,288	1,565	2,077
19,367	21,187	23,622
6.65%	7.39%	8.79%

- Due to FedEx's management in deep awareness of profitability dynamics, it was able to impressively increase annual NOPAT at a higher rate (22% @ 2010/2011 and 33% @ 2011/2012) compared to invested capital growth rates (9% @ 2010/2011 and 11% @ 2011/2012) that resulted in a continuous increase in ROIC till reaching a desired level of 8.79% in FY2012 exceeding the 8.55% WACC given for the same year.

Economic Value Added (EVA)

EVA = NOPAT - (WACC)(Capital)

NOPAT

WACC

Kd, no bonds

Ke, DG Model

WACC

Operating Capital

EVA

FY 2010	FY 2011	FY 2012
1,288	1,565	2,077
3.04%	3.35%	2.70%
9.62%	9.60%	8.92%
9.00%	9.07%	8.55%
19,367	21,187	23,622
(455)	(356)	58

Market Value Added

MVA = Market Value - Book Value

Avg # of Common and Common Equiv. Shares

Market Price FYE

Market Value (M price x # of common Shrs)

Book Value of equity

MVA

MV / BV Multiple (# times)

	FY 2010	FY 2011	FY 2012
Avg # of Common and Common Equiv. Shares	314	317	317
Market Price FYE	\$83.49	\$93.64	\$89.14
Market Value (M price x # of common Shrs)	26,223	29,684	28,257
Book Value of equity	13,811	15,220	14,727
MVA	12,412	14,464	13,530
MV / BV Multiple (# times)	1.90	1.95	1.92

WACC Calculation

	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>
Debt	33.80	46.22	46.22	46.22	46.22
Equity	1762.026	1783.465	1817.131	1848.265	1881.109
WACC	8.55%	8.61%	8.62%	8.62%	8.63%

Scenario Run – Summary, Forecasted Corporate Valuation Analysis

Corporate Valuation Analysis
Summary Comparative 3 Scenarios
Forecast FY 2013 – FY 2017

	A FY 2012	F FY 2013	F FY 2014	F FY 2015	F FY 2016	F FY 2017
Scenario I						
<i>Scenario I : Forecast 10% growth in Sales related Items & 5% growth in Opex</i>						
FCF	(358)	(492)	4,750	6,624	8,755	11,173
ROIC	8.79%	13.48%	19.13%	25.25%	31.84%	38.88%
EVA	58	1,370	3,018	4,898	7,035	9,459
MVA	13,530	37,077	60,493	87,187	117,535	151,951
Stock Price	\$89.14	\$165.47	\$241.60	\$328.32	\$426.84	\$538.49
Scenario II						
<i>Scenario II : Forecast 5% growth in Sales & 3% growth in Opex</i>						
FCF	(358)	(1,034)	3,217	3,916	4,668	5,473
ROIC	8.79%	10.46%	12.73%	15.12%	17.62%	20.23%
EVA	58	523	1,162	1,848	2,585	3,375
MVA	13,530	25,054	34,143	43,907	54,386	65,624
Stock Price	\$89.14	\$126.48	\$156.20	\$188.10	\$222.32	\$258.99
Scenario III						
<i>Scenario III : Forecast 5% growth in Sales , 3% growth in Opex & 1% IR Inc</i>						
FCF	(358)	(1,027)	3,223	3,923	4,674	5,480
ROIC	8.79%	10.48%	12.75%	15.14%	17.64%	20.25%
EVA	58	514	1,153	1,839	2,576	3,366
MVA	13,530	24,879	33,968	43,732	54,211	65,449
Stock Price	\$89.14	\$125.93	\$155.65	\$187.55	\$221.77	\$258.44

FedEx Corporation
Consolidated Statements of Income
Actual FY 2010 – FY 2012
Forecast FY 2013 – FY 2017

In millions

	A FY 2010	A FY 2011	A FY 2012	Scenario I : Forecast 10% growth in Sales & 5% growth in Opex				
				FY 2013	FY 2014	FY 2016	FY 2018	FY 2017
Revenue:								
Total Revenue	\$ 34,734	\$ 39,304	\$ 42,680	\$ 46,948	\$ 51,643	\$ 56,807	\$ 62,488	\$ 68,737
Operating Expenses:								
Salaries and employee benefits	\$14,027	\$15,276	\$16,099	\$ 16,904	\$ 17,749	\$ 18,637	\$ 19,568	\$ 20,547
Purchased transportation	4,728	5,674	6,335	\$ 6,652	\$ 6,984	\$ 7,334	\$ 7,700	\$ 8,085
Rentals and landing fees	2,359	2,462	2,487	\$ 2,611	\$ 2,742	\$ 2,879	\$ 3,023	\$ 3,174
Depreciation and amortization	1,958	1,973	2,113	\$ 2,219	\$ 2,330	\$ 2,446	\$ 2,568	\$ 2,697
Transportation Fuel	3,106	4,151	4,956	\$ 5,204	\$ 5,464	\$ 5,737	\$ 6,024	\$ 6,325
Maintenance and repairs	1,715	1,979	1,980	\$ 2,079	\$ 2,183	\$ 2,292	\$ 2,407	\$ 2,527
Other operating Expense	4,843	5,249	5,256	\$ 5,519	\$ 5,795	\$ 6,084	\$ 6,389	\$ 6,708
Total Operating Expenses	32,736	36,926	39,494	41,187	43,247	45,409	47,679	50,063
Operating Income :								
Total Operating Income	1,998	2,378	3,186	5,761	8,396	11,398	14,808	18,673
Other Income (Expense):								
Interest Expense	\$ 79.00	\$ 86.00	\$ 52.00	\$ 52.00	\$ 52.00	\$ 52.00	\$ 52.00	\$ 52.00
Interest Income	(8)	(9)	(13)	(13)	(13)	(13)	(13)	(13)
Other, net	(33)	(36)	(6)	(6)	(6)	(6)	(6)	(6)
Total Other Income (Expense)	38	41	33	33	33	33	33	33
Income Before Income Taxes	1,894	2,265	3,141	5,728	8,363	11,365	14,775	18,640
Income Taxes	710	813	1,109	2,005	2,927	3,978	5,171	6,524
Net Income	\$ 1,184	\$ 1,452	\$ 2,032	\$ 3,723	\$ 5,436	\$ 7,387	\$ 9,604	\$ 12,116
Basic Earnings Per Share	\$ 3.78	\$ 4.61	\$ 6.44	\$ 11.82	\$ 17.26	\$ 23.45	\$ 30.49	\$ 38.46
Weighted Avg. Common Shares	312	315	315	315	315	315	315	315

FedEx Corporation
Consolidated Balance Sheets
Actual FY 2010 – FY 2012
Forecast FY 2013 – FY 2017

In million	FY 2010	FY 2011	FY 2012	Scenario I : Forecast 10% growth in Sales related items					Assumption
ASSETS				FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Current Assets									
Cash & Near Cash Items	\$ 1,952	\$ 2,328	\$ 2,543	\$ 3,127	\$ 3,440	\$ 3,784	\$ 4,162	\$ 4,579	10% growth
Accounts & Notes Receivable	4,183	4,581	4,704	5,174	5,802	6,261	6,887	7,578	10% growth
Inventories	389	437	440	440	440	440	440	440	Same
Other Current Assets	780	939	1,069	1,069	1,069	1,069	1,069	1,069	Same
Total current assets	7,284	8,285	9,056	9,811	10,641	11,554	12,559	13,664	
Property and Equipment, at Cost									
Gross Fixed Assets	\$31,302	\$33,686	\$36,154	36,154	36,154	36,154	36,154	36,154	Same
Less accumulated depreciation and amort.	16,917	18,143	18,916	19,022	19,133	19,249	19,371	19,500	Add Dep. Exp
Net property and equipment	14,385	15,543	17,248	17,142	17,021	16,915	16,783	16,654	
Goodwill	\$ 2,200	\$ 2,326	\$ 2,387	\$ 2,387	\$ 2,387	\$ 2,387	\$ 2,387	\$ 2,387	Same
Other Long-Term Assets									
Pension assets	--	--	--	--	--	--	--	--	Same
Intangible and other assets	1,033	1,231	1,212	1,212	1,212	1,212	1,212	1,212	Same
Total other long-term assets	3,233	3,557	3,599	3,599	3,599	3,599	3,599	3,599	
Total Long-Term Assets	17,618	19,100	17,618	20,741	20,630	20,514	20,392	20,263	
Total Assets	\$ 24,902	\$ 27,385	\$ 29,003	\$ 30,552	\$ 31,271	\$ 32,068	\$ 32,950	\$ 33,927	
LIABILITIES AND STOCKHOLDERS' EQUITY									
Current Liabilities									
Accounts payable	\$ 1,522	\$ 1,702	\$ 1,613	\$ 1,613	\$ 1,613	\$ 1,613	\$ 1,613	\$ 1,613	Same
Short-Term Borrowings	262	18	417	417	417	417	417	417	Same
Other Short-Term Liabilities	2,861	3,162	3,344	3,344	3,344	3,344	3,344	3,344	Same
Total current liabilities	4,645	4,882	5,374	5,374	5,374	5,374	5,374	5,374	
Long-Term Liabilities									
Long-Term Borrowings	\$ 1,868	\$ 1,667	\$ 1,250	\$ 1,250	\$ 1,250	\$ 1,250	\$ 1,250	\$ 1,250	Same
Other Long-Term Liabilities	4,778	5,616	8,552	8,552	8,552	8,552	8,552	8,552	Same
Total long-term liabilities	6,446	7,283	9,802	9,802	9,802	9,802	9,802	9,802	
Total Liabilities	\$ 11,091	\$ 12,165	\$ 15,176	\$ 15,176	\$ 15,176	\$ 15,176	\$ 15,176	\$ 15,176	
Commitments and Contingencies									
Common stock \$0.10 par value; 800 millions	31	32	32	32	32	32	32	32	
Common Stockholders' Additional paid-in capital	2,261	2,484	2,595	2,595	2,595	2,595	2,595	2,595	
Retained earnings	13,966	15,266	17,134	17,702	18,488	19,265	20,147	21,124	Inc & Divid
Accumulated other comprehensive loss	(2,440)	(2,550)	(4,953)	(4,953)	(5,000)	(5,000)	(5,000)	(5,000)	same
Treasury stock, at cost	(7)	(12)	(81)	--	--	--	--	--	
Total common stockholders' investment	13,811	15,220	14,727	15,376	16,095	16,862	17,774	18,751	
Total Liabilities & Stockholders' Equity	\$ 24,902	\$ 27,385	\$ 29,003	\$ 30,552	\$ 31,271	\$ 32,068	\$ 32,950	\$ 33,927	

Corporate Valuation Analysis

Actual FCF, FY 2010 – FY 2012

Scenario I : Forecast FY 2013 – FY 2017

	FY 2010	FY 2011	FY 2012	Scenario I : Forecast 10% growth in sales & 5% growth in Oper				
				FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Earnings Before Interest & Taxes	1,368	2,378	3,188	5,761	8,398	11,368	14,808	18,673
Income Taxes	(712)	(813)	(1,109)	2,026	2,827	3,878	5,171	6,524
Net Operating Profit after Tax (NOPAT)	1,288	1,565	2,077	3,758	5,469	7,420	9,637	12,149
Operating Working Capital								
Operating Current Assets								
Accounts & Notes Receivable	4,183	4,581	4,704	5,174	5,892	6,281	6,887	7,578
Cash & Near Cash Items	1,952	2,328	2,843	3,127	3,440	3,784	4,162	4,579
Inventories	389	437	440	440	440	440	440	440
Total operating Assets	6,504	7,346	7,987	8,742	9,772	10,485	11,490	12,596
Operating Current Liabilities								
Accounts Payable	1,522	1,702	1,813	1,813	1,813	1,813	1,813	1,813
NOWC (Op CA - op CL)	4,982	5,644	6,374	7,129	7,959	8,672	9,677	10,783
Total Net Operating Capital								
Net Fixed Assets	14,385	15,543	17,248	20,741	20,830	20,514	20,392	20,283
NOG (NOWC + Net Fixed Assets)	19,367	21,187	23,622	27,870	28,589	29,386	30,268	31,245
Free Cash Flow								
(NOPAT - Net Investment in operating Capital)								
NOPAT	1,288	1,565	2,077	3,758	5,469	7,420	9,637	12,149
Net Investment in operating Capital	NA	(1,822)	(2,433)	(4,248)	(718)	(797)	(882)	(977)
FCF		(255)	(258)	(492)	4,750	6,524	8,758	11,173
Return on Invested Capital (ROIC)								
(ROIC = NOPAT / Operating Capital)								
NOPAT	1,288	1,565	2,077	3,758	5,469	7,420	9,637	12,149
Operating Capital	19,367	21,187	23,622	27,870	28,589	29,386	30,268	31,245
ROIC %	6.66%	7.39%	8.79%	13.48%	19.13%	25.25%	31.84%	38.88%
Economic Value Added (EVA)								
(EVA = NOPAT - (WACC)(capital))								
NOPAT	1,288	1,565	2,077	3,758	5,469	7,420	9,637	12,149
WACC								
Kd , no bonds	3.04%	3.35%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%
Ke , DG Model	9.82%	9.82%	8.92%	8.92%	8.92%	8.92%	8.92%	8.92%
WACC	9.00%	9.07%	8.55%	8.56%	8.57%	8.58%	8.60%	8.61%
Operating Capital	19,367	21,187	23,622	27,870	28,589	29,386	30,268	31,245
EVA	(455)	(355)	58	1,370	3,015	4,556	7,038	9,459
Market Value Added								
(MVA = Market Value - Book Value)								
Avg # of Common and Common Equiv. Shares	314	317	317	317	317	317	317	317
Market Price (FY)	\$83.49	\$83.84	\$89.14	\$185.47	\$241.80	\$328.32	\$426.84	\$538.49
Market Value (M price x # of common Shrs)	26,223	29,684	28,257	52,453	76,588	104,079	135,309	170,702
Book Value of equity	13,811	13,230	14,727	15,376	16,085	16,893	17,774	18,751
P/E	22	20	14					
EPS				\$11.82	\$17.26	\$29.45	\$30.49	\$38.48
MVA	12,412	14,454	13,530	37,077	60,493	87,187	117,535	151,951

Scenario II : Forecast 5% growth in Sales & 3% growth in Operating Expense

FedEx Corporation
Consolidated Statements of Income
 Actual FY 2010 – FY 2012
 Forecast FY 2013 – FY 2017

In millions	A	A	A	Scenario 2 : Forecast 5% growth in Sales & 3% growth in Oper				
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Revenue:								
Total Revenue	\$ 34,734	\$ 39,304	\$ 42,680	\$ 44,814	\$ 47,055	\$ 49,407	\$ 51,878	\$ 54,472
Operating Expenses:								
Salaries and employee benefits	\$14,027	\$15,276	\$16,099	\$ 16,582	\$ 17,075	\$ 17,592	\$ 18,120	\$ 18,663
Purchased transportation	4,728	5,674	6,335	\$ 6,525	\$ 6,721	\$ 6,922	\$ 7,130	\$ 7,344
Rentals and landing fees	2,359	2,462	2,487	\$ 2,562	\$ 2,638	\$ 2,718	\$ 2,799	\$ 2,883
Depreciation and amortization	1,958	1,973	2,113	\$ 2,176	\$ 2,242	\$ 2,309	\$ 2,378	\$ 2,450
Transportation Fuel	3,106	4,151	4,956	\$ 5,105	\$ 5,258	\$ 5,416	\$ 5,578	\$ 5,745
Maintenance and repairs	1,715	1,979	1,980	\$ 2,039	\$ 2,101	\$ 2,164	\$ 2,229	\$ 2,295
Other operating Expense	4,843	5,249	5,256	\$ 5,414	\$ 5,576	\$ 5,743	\$ 5,916	\$ 6,093
Total Operating Expenses	32,736	36,926	39,494	40,403	41,615	42,863	44,149	45,474
Operating Income :								
Total Operating Income	1,998	2,378	3,186	4,411	5,440	6,544	7,729	8,998
Other Income (Expense):								
Interest Expense	\$ 79.00	\$ 86.00	\$ 52.00	\$ 52.00	\$ 52.00	\$ 52.00	\$ 52.00	\$ 52.00
Interest Income	(6)	(9)	(13)	(13)	(13)	(13)	(13)	(13)
Other, net	(33)	(36)	(6)	(6)	(6)	(6)	(6)	(6)
Total Other Income (Expense)	38	41	33	33	33	33	33	33
Income Before Income Taxes	1,894	2,265	3,141	4,378	5,407	6,511	7,696	8,965
Income Taxes	710	813	1,109	1,532	1,892	2,279	2,693	3,138
Net Income	\$ 1,184	\$ 1,452	\$ 2,032	\$ 2,846	\$ 3,514	\$ 4,232	\$ 5,002	\$ 5,827
Basic Earnings Per Share	\$ 3.78	\$ 4.61	\$ 6.44	\$ 9.03	\$ 11.16	\$ 13.44	\$ 15.88	\$ 18.50
Weighted Avg. Common Shares	312	315	315	315	315	315	315	315

FedEx Corporation
Consolidated Balance Sheets
Actual FY 2010 – FY 2012
Forecast FY 2013 – FY 2017

In million	FY 2010	FY 2011	FY 2012	Scenario 2: Forecast 5% growth in Sales & 3% growth in Oper					Assumption
ASSETS	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Current Assets									
Cash & Near Cash Items	\$ 1,952	\$ 2,328	\$ 2,843	\$ 2,985	\$ 3,134	\$ 3,291	\$ 3,458	\$ 3,628	5% growth
Accounts & Notes Receivable	4,183	4,581	4,704	4,939	5,199	5,445	5,718	6,004	5% growth
Inventories	389	437	440	440	440	440	440	440	Same
Other Current Assets	780	930	1,089	1,089	1,089	1,089	1,089	1,089	Same
Total current assets	7,284	8,285	9,056	9,433	9,830	10,249	10,682	11,141	
Property and Equipment, at Cost									
Gross Fixed Assets	\$31,302	\$33,686	\$36,184	\$6,184	\$6,184	\$6,184	\$6,184	\$6,184	Same
Less accumulated depreciation and amort.	18,917	18,143	18,818	18,979	19,045	19,112	19,181	19,253	Add Dep. Exp
Net property and equipment	14,385	15,543	17,348	17,185	17,119	17,052	16,983	16,911	
Goodwill	\$ 2,200	\$ 2,328	\$ 2,387	\$ 2,387	\$ 2,387	\$ 2,387	\$ 2,387	\$ 2,387	Same
Other Long-Term Assets									
Pension assets	-	-	-	-	-	-	-	-	Same
Intangible and other assets	1,053	1,231	1,212	1,212	1,212	1,212	1,212	1,212	Same
Total other long-term assets	3,253	3,557	3,590	3,590	3,590	3,590	3,590	3,590	
Total Long-Term Assets	17,618	19,100	17,618	20,784	20,718	20,651	20,582	20,510	
Total Assets	\$ 24,902	\$ 27,385	\$ 26,673	\$ 30,217	\$ 30,548	\$ 30,899	\$ 31,264	\$ 31,652	
LIABILITIES AND STOCKHOLDERS' EQUITY									
Current Liabilities									
Accounts payable	\$ 1,522	\$ 1,702	\$ 1,613	\$ 1,613	\$ 1,613	\$ 1,613	\$ 1,613	\$ 1,613	Same
Short-Term Borrowings	262	18	417	417	417	417	417	417	Same
Other Short-Term Liabilities	2,861	3,182	3,344	3,344	3,344	3,344	3,344	3,344	Same
Total current liabilities	4,645	4,892	5,374	5,374	5,374	5,374	5,374	5,374	
Long-Term Liabilities									
Long-Term Borrowings	\$ 1,888	\$ 1,867	\$ 1,250	\$ 1,250	\$ 1,250	\$ 1,250	\$ 1,250	\$ 1,250	Same
Other Long-Term Liabilities	4,778	5,616	8,592	8,592	8,592	8,592	8,592	8,592	Same
Total long-term liabilities	6,446	7,283	9,802	9,802	9,802	9,802	9,802	9,802	
Total Liabilities	\$ 11,091	\$ 12,185	\$ 15,176	\$ 15,176	\$ 15,176	\$ 15,176	\$ 15,176	\$ 15,176	
Commitments and Contingencies									
Common stock \$0.10 per share; 800 million s	31	32	32	32	32	32	32	32	
Common Stockholders' Additional paid-in capital	2,261	2,484	2,505	2,505	2,505	2,505	2,505	2,505	
Retained earnings	13,966	15,288	17,134	17,367	17,745	18,093	18,461	18,840	Inc & Divid same
Accumulated other comprehensive loss	(2,440)	(2,550)	(4,053)	(4,953)	(5,000)	(5,000)	(5,000)	(5,000)	
Treasury stock, at cost	(7)	(12)	(81)	-	-	-	-	-	
Total common stockholders' investment	13,611	15,220	14,727	15,041	15,372	15,720	16,088	16,478	
Total Liabilities & Stockholders' Equity	\$ 24,902	\$ 27,385	\$ 29,903	\$ 30,217	\$ 30,548	\$ 30,899	\$ 31,264	\$ 31,652	
				(7)	0	0	0	(8)	
				1,799	2,448	3,166	3,931	2,306	

Corporate Valuation Analysis **Actual FCF, FY 2010 – FY 2012** **Scenario II : Forecast FY 2013 – FY 2017**

	FY 2010	FY 2011	FY 2012	Scenario 2 : Forecast 8% growth in Sales & 3% growth in Oper				
				FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Earnings Before Interest & Taxes	1,998	2,378	3,186	4,411	5,440	6,544	7,729	8,998
Income Taxes	(710)	(813)	(1,109)	1,532	1,892	2,279	2,893	3,138
Net Operating Profit after Tax (NOPAT)	1,288	1,565	2,077	2,879	3,547	4,265	5,035	5,860
Operating Working Capital								
Operating Current Assets								
Accounts & Notes Receivable	4,183	4,581	4,704	4,939	5,188	5,445	5,718	6,004
Cash & Near Cash Items	1,952	2,328	2,843	2,985	3,134	3,291	3,456	3,628
Inventories	389	437	440	440	440	440	440	440
Total operating Assets	6,524	7,346	7,987	8,364	8,761	9,177	9,613	10,072
Operating Current Liabilities								
Accounts Payable	1,522	1,702	1,813	1,813	1,813	1,813	1,813	1,813
NOWC (Op CA - op CL)	4,992	5,644	6,174	6,551	7,148	7,564	8,000	8,459
Total Net Operating Capital								
Net Fixed Assets	14,385	15,543	17,248	20,784	20,718	20,651	20,582	20,510
NOC (NOWC + Net Fixed Assets)	19,367	21,187	23,622	27,535	27,866	28,215	28,582	28,970
Free Cash Flow								
(NOPAT - Net Investment in operating Capital)								
NOPAT	1,288	1,565	2,077	2,879	3,547	4,265	5,035	5,860
Net Investment in operating Capital	NA	(1,600)	(2,435)	(3,913)	(331)	(349)	(368)	(387)
FCF		(296)	(358)	(1,034)	3,217	3,916	4,668	5,473
Return on Invested Capital (ROIC)								
ROIC = NOPAT / Operating Capital								
NOPAT	1,288	1,565	2,077	2,879	3,547	4,265	5,035	5,860
Operating Capital	19,367	21,187	23,622	27,535	27,866	28,215	28,582	28,970
ROIC %	6.65%	7.39%	8.79%	10.46%	12.73%	15.12%	17.62%	20.23%
Economic Value Added (EVA)								
EVA = NOPAT - (WACC * Capital)								
NOPAT	1,288	1,565	2,077	2,879	3,547	4,265	5,035	5,860
WACC								
Kd , no bonds	3.04%	3.35%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%
Ke , DG Model	9.62%	9.62%	8.92%	8.92%	8.92%	8.92%	8.92%	8.92%
WACC	9.00%	9.07%	8.55%	8.55%	8.56%	8.57%	8.57%	8.58%
Operating Capital	19,367	21,187	23,622	27,535	27,866	28,215	28,582	28,970
EVA	(455)	(396)	58	523	1,162	1,848	2,565	3,375
Market Value Added								
MVA = Market Value - Book Value								
Aug # of Common and Common Equiv. Shares	314	317	317	317	317	317	317	317
Market Price (FY)	\$83.49	\$93.84	\$89.14	\$126.48	\$156.20	\$188.10	\$222.32	\$258.99
Market Value (M price x # of common Share)	26,223	29,684	28,257	40,095	49,515	59,627	70,475	82,100
Book Value of equity	13,811	15,220	14,727	15,941	15,372	15,720	16,088	16,476
P/E	22	20	14					
EPS				\$9.03	\$11.16	\$13.44	\$15.88	\$18.50
MVA	12,412	14,464	13,530	24,054	34,143	43,907	54,388	65,624

Scenario III : Forecast 5% growth in Sales , 3% growth in Opex & 1% Interest Rate increase

FedEx Corporation
Consolidated Statements of Income
Actual FY 2010 – FY 2012
Forecast FY 2013 – FY 2017

In millions

	A	A	A	Scenario 3 : Forecast 5% growth in Sales , 3% growth in Opex & 1% IR Inc.				
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Revenue:								
Total Revenue	\$ 34,734	\$ 39,304	\$ 42,680	\$ 44,814	\$ 47,055	\$ 49,407	\$ 51,878	\$ 54,472
Operating Expenses:								
Salaries and employee benefits	\$ 14,027	\$ 15,276	\$ 16,099	\$ 16,582	\$ 17,079	\$ 17,593	\$ 18,120	\$ 18,663
Purchased transportation	4,728	5,674	6,335	\$ 6,525	\$ 6,721	\$ 6,922	\$ 7,130	\$ 7,344
Rentals and landing fees	2,359	2,462	2,487	\$ 2,562	\$ 2,638	\$ 2,718	\$ 2,799	\$ 2,883
Depreciation and amortization	1,958	1,973	2,113	\$ 2,176	\$ 2,242	\$ 2,305	\$ 2,378	\$ 2,450
Transportation Fuel	3,106	4,151	4,956	\$ 5,105	\$ 5,258	\$ 5,416	\$ 5,578	\$ 5,745
Maintenance and repairs	1,715	1,979	1,980	\$ 2,039	\$ 2,101	\$ 2,164	\$ 2,229	\$ 2,295
Other operating Expense	4,843	5,349	5,356	\$ 5,414	\$ 5,576	\$ 5,743	\$ 5,916	\$ 6,093
Total Operating Expenses	32,736	36,926	39,494	40,403	41,615	42,863	44,149	45,474
Operating Income :								
Total Operating Income	1,998	2,378	3,186	4,411	5,440	6,544	7,729	8,998
Other Income (Expense):								
Interest Expense	\$ 79.00	\$ 86.00	\$ 52.00	\$ 71.10	\$ 71.10	\$ 71.10	\$ 71.10	\$ 71.10
Interest Income	(8)	(9)	(13)	(13)	(13)	(13)	(13)	(13)
Other, net	(33)	(36)	(6)	(6)	(6)	(6)	(6)	(6)
Total Other Income (Expense)	38	41	33	52	52	52	52	52
Income Before Income Taxes	1,894	2,265	3,141	4,359	5,388	6,492	7,676	8,946
Income Taxes	710	813	1,109	1,526	1,886	2,272	2,687	3,131
Net Income	\$ 1,184	\$ 1,452	\$ 2,032	\$ 2,833	\$ 3,502	\$ 4,220	\$ 4,989	\$ 5,815
Basic Earnings Per Share	\$ 3.78	\$ 4.61	\$ 6.44	\$ 9.00	\$ 11.12	\$ 13.40	\$ 15.84	\$ 18.46
Weighted Avg. Common Shares	312	315	315	315	315	315	315	315

FedEx Corporation
Consolidated Balance Sheets
Actual FY 2010 – FY 2012
Forecast FY 2013 – FY 2017

In millions	Scenario 1: Forecast 5% growth in Sales, 3% growth in Oper & FX RV Inc.								
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Assumption
ASSETS									
Current Assets									
Cash & Near Cash Items	\$ 1,852	\$ 2,328	\$ 2,643	\$ 2,885	\$ 3,134	\$ 3,201	\$ 3,486	\$ 3,828	5% growth
Accounts & Notes Receivable	4,183	4,581	4,704	4,939	5,188	5,445	5,718	6,004	5% growth
Inventories	389	437	440	440	440	440	440	440	Same
Other Current Assets	780	939	1,089	1,069	1,069	1,069	1,069	1,069	Same
Total current assets	7,204	8,285	8,876	9,433	9,830	10,245	10,692	11,141	
Property and Equipment, at Cost									
Gross Fixed Assets	\$31,302	\$33,686	\$36,164	\$6,164	\$6,164	\$6,164	\$6,164	\$6,164	Same
Less accumulated depreciation and amort.	18,817	18,143	18,816	18,819	18,045	18,112	18,181	18,253	Add Dep. Exp
Net property and equipment	14,385	15,543	17,348	17,185	17,119	17,052	16,983	16,911	
Goodwill	\$ 2,200	\$ 2,328	\$ 2,387	\$ 2,387	\$ 2,387	\$ 2,387	\$ 2,387	\$ 2,387	Same
Other Long-Term Assets									
Pension assets	-	-	-	-	-	-	-	-	Same
Intangible and other assets	1,093	1,291	1,212	1,212	1,212	1,212	1,212	1,212	Same
Total other long-term assets	3,293	3,587	3,599	3,599	3,599	3,599	3,599	3,599	
Total Long-Term Assets	17,618	18,130	17,618	20,784	20,718	20,651	20,582	20,510	
Total Assets	\$ 24,802	\$ 27,385	\$ 26,803	\$ 30,217	\$ 30,548	\$ 30,897	\$ 31,264	\$ 31,652	
LIABILITIES AND STOCKHOLDERS' EQUITY									
Current Liabilities									
Accounts payable	\$ 1,522	\$ 1,702	\$ 1,813	\$ 1,813	\$ 1,813	\$ 1,813	\$ 1,813	\$ 1,813	Same
Short-Term Borrowings	282	18	417	417	417	417	417	417	Same
Other Short-Term Liabilities	2,881	3,182	3,344	3,344	3,344	3,344	3,344	3,344	Same
Total current liabilities	4,685	4,892	5,374	5,374	5,374	5,374	5,374	5,374	
Long-Term Liabilities									
Long-Term Borrowings	\$ 1,688	\$ 1,687	\$ 1,250	\$ 1,250	\$ 1,250	\$ 1,250	\$ 1,250	\$ 1,250	Same
Other Long-Term Liabilities	4,778	5,816	8,582	8,582	8,582	8,582	8,582	8,582	Same
Total long-term liabilities	6,466	7,503	9,832	9,832	9,832	9,832	9,832	9,832	
Total Liabilities	\$ 11,091	\$ 12,185	\$ 15,178	\$ 15,178	\$ 15,178	\$ 15,178	\$ 15,178	\$ 15,178	
Commitments and Contingencies									
Common stock \$0.10 per share, 800 million sh	31	32	32	32	32	32	32	32	
Common Stockholders' Additional paid-in capital	2,281	2,484	2,595	2,595	2,595	2,595	2,595	2,595	
Retained earnings	13,988	15,288	17,134	17,387	17,744	18,003	18,482	18,848	Inc & Div id
Accumulated other comprehensive loss	(2,440)	(2,550)	(4,053)	(4,053)	(5,000)	(5,000)	(5,000)	(5,000)	same
Treasury stock, at cost	(7)	(12)	(81)	-	-	-	-	-	
Total common stockholders' investment	13,811	15,220	14,727	15,941	15,371	15,720	16,080	16,475	
Total Liabilities & Stockholders' Equity	\$ 24,802	\$ 27,385	\$ 26,803	\$ 30,217	\$ 30,547	\$ 30,898	\$ 31,265	\$ 31,651	
				(7)	0	0	(3)	0	
				1,799	2,436	3,153	1,904	2,300	

Corporate Valuation Analysis
Actual FCF, FY 2010 – FY 2012
Scenario III : Forecast FY 2013 – FY 2017

	FY 2010	FY 2011	FY 2012	Scenario 3 : Forecast 5% growth in Sales , 3% growth in Oper & 1% IR Inc.				
				FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Earnings Before Interest & Taxes	1,990	2,378	3,100	4,411	5,440	6,544	7,729	8,990
Income Taxes	(710)	(813)	(1,109)	1,526	1,868	2,272	2,687	3,131
Net Operating Profit after Tax (NOPAT)	1,280	1,565	2,077	2,886	3,554	4,272	5,042	5,867
Operating Working Capital								
Operating Current Assets								
Accounts & Notes Receivable	4,103	4,581	4,704	4,939	5,100	5,445	5,718	6,004
Cash & Near Cash Items	1,952	2,328	2,843	2,985	3,134	3,291	3,450	3,628
Inventories	389	437	440	440	440	440	440	440
Total operating Assets	6,504	7,346	7,907	8,364	8,701	9,177	9,613	10,072
Operating Current Liabilities								
Accounts Payable	1,522	1,702	1,813	1,813	1,813	1,813	1,813	1,813
NOWC (Op CA - op CL)	4,982	5,644	6,374	6,751	7,140	7,564	8,000	8,459
Total Net Operating Capital								
Net Fixed Assets	14,385	15,543	17,248	20,784	20,718	20,881	20,582	20,510
NOC (NOWC + Net Fixed Assets)	19,367	21,187	23,622	27,535	27,868	28,215	28,582	28,970
Free Cash Flow								
(NOPAT - Net Investment in operating Capital)								
NOPAT	1,280	1,565	2,077	2,886	3,554	4,272	5,042	5,867
Net Investment in operating Capital	NA	(1,820)	(2,435)	(3,913)	(331)	(349)	(368)	(387)
FCF		(255)	(358)	(1,027)	3,223	3,923	4,674	5,480
Return on Invested Capital (ROIC)								
ROIC = NOPAT / Operating Capital								
NOPAT	1,280	1,565	2,077	2,886	3,554	4,272	5,042	5,867
Operating Capital	19,367	21,187	23,622	27,535	27,868	28,215	28,582	28,970
ROIC %	6.65%	7.39%	8.79%	10.48%	12.75%	15.14%	17.64%	20.25%
Economic Value Added (EVA)								
EVA = NOPAT - (WACC) Capital								
NOPAT	1,280	1,565	2,077	2,886	3,554	4,272	5,042	5,867
WACC								
Kd , no bonds	3.04%	3.35%	2.70%	3.70%	3.70%	3.70%	3.70%	3.70%
Ks , DG Model	9.02%	9.00%	8.82%	8.82%	8.82%	8.82%	8.82%	8.82%
WACC	9.00%	9.07%	8.55%	8.81%	8.82%	8.82%	8.83%	8.83%
Operating Capital	19,367	21,187	23,622	27,535	27,868	28,215	28,582	28,970
EVA	(485)	(356)	55	514	1,153	1,039	2,578	3,388
Market Value Added								
MVA = Market Value - Book Value								
Avg # of Common and Common Equiv. Shares	314	317	317	317	317	317	317	317
Market Price FYE	\$83.49	\$93.64	\$89.14	\$125.93	\$155.65	\$187.55	\$221.77	\$258.44
Market Value (M price x # of common Shrs)	26,223	29,684	28,257	39,920	49,340	59,453	70,300	81,925
Book Value of equity	13,811	15,320	14,757	15,041	15,371	15,720	16,089	16,475
P/E	22	20	14					
EPS				\$9.00	\$11.12	\$13.40	\$15.54	\$18.48
MVA	12,412	14,464	13,500	24,879	33,969	43,732	54,211	65,449

Corporate Valuation Analysis

FCF, FY 2010 – FY 2012

	FY 2010	FY 2011	FY 2012
<u>Earnings Before Interest & Taxes</u>	1,998	2,378	3,186
Income Taxes	(710)	(813)	(1,109)
Net Operating Profit after Tax (NOPAT)	1,288	1,565	2,077
<u>Operating Working Capital</u>			
<u>Operating Current Assets</u>			
Accounts & Notes Receivable	4,163	4,581	4,704
Cash & Near Cash Items	1,952	2,328	2,843
Inventories	389	437	440
Total operating Assets	6,504	7,346	7,987
<u>Operating Current Liabilities</u>			
Accounts Payable	1,522	1,702	1,613
NOWC (Op CA - op CL)	4,982	5,644	6,374
<u>Total Net Operating Capital</u>			
Net Fixed Assets	14,385	15,543	17,248
NOC (NOWC + Net Fixed Assets)	19,367	21,187	23,622
<u>Free Cash Flow</u>			
(NOPAT - Net Investment in operating Capital)			
NOPAT	1,288	1,565	2,077
Net Investment in operating Capital	NA	(1,820)	(2,435)
FCF		(255)	(358)
<u>Uses of FCF</u>			
Pay Interest on Debt (Tax rate 35%)		56	34
Reduction (Increase) In Debt		244	(399)
Dividends Paid		151	164
Repurchase of Stock		5	69
Purch non operating asset		(201)	(226)

Corporate Valuation Analysis FCF, FY 2010 – FY 2012

	FY 2010	FY 2011	FY 2012
Earnings Before Interest & Taxes	1.998	2.378	3.188
Income Taxes	(710)	(813)	(1.109)
Net Operating Profit after Tax (NOPAT)	1.288	1.565	2.077
Operating Working Capital			
Operating Current Assets			
Accounts & Notes Receivable	4.163	4.581	4.704
Cash & Near Cash Items	1.952	2.328	2.843
Inventories	389	437	440
Total operating Assets	6.504	7.346	7.987
Operating Current Liabilities			
Accounts Payable	1.522	1.702	1.613
NOWC (Op CA - op CL)	4.982	5.644	6.374
Total Net Operating Capital			
Net Fixed Assets	14.385	15.543	17.248
NOG (NOWC + Net Fixed Assets)	19.367	21.187	23.622
Free Cash Flow			
(NOPAT - Net Investment in operating Capital)			
NOPAT	1.288	1.565	2.077
Net Investment in operating Capital	NA	(1.620)	(2.435)
FCF		(255)	(358)
Uses of FCF			
Pay Interest on Debt (Tax rate 35%)		56	34
Reduction (Increase) in Debt		244	(399)
Dividends Paid		151	164
Repurchase of Stock		5	89
Purch non operating asset		(201)	(226)
Return on Invested Capital (ROIC)			
ROIC = NOPAT / Operating Capital			
NOPAT	1.288	1.565	2.077
Operating Capital	19.367	21.187	23.622
ROIC %	6.65%	7.39%	8.79%
Economic Value Added (EVA)			
EVA = NOPAT - (WACC)(Capital)			
NOPAT	1.288	1.565	2.077
WACC			
Kd, no bonds	3.04%	3.35%	2.70%
Ke, DG Model	9.62%	9.60%	8.92%
WACC	9.00%	9.07%	8.55%
Operating Capital	19.367	21.187	23.622
EVA	(455)	(356)	58
Market Value Added			
MVA = Market Value - Book Value			
Avg # of Common and Common Equiv. Shares	314	317	317
Market Price FYE	\$83.49	\$93.64	\$89.14
Market Value (M price x # of common Shrs)	26,223	29,684	28,257
Book Value of equity	13,811	15,220	14,727
MVA	12,412	14,464	13,530
MV / BV Multiple (# times)	1.90	1.95	1.92

Financial Ratios 2010-2012

FedEx Corporation Ratio Analysis FY 2010 – FY 2012

	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>
<u>Profitability & Growth</u>			
Gross Profit Margin	19.69%	19.82%	20.41%
Operating Profit Margin	5.80%	6.28%	7.78%
Net Profit Margin	3.41%	3.69%	4.76%
EBITDA Margin	11.44%	11.30%	12.73%
Revenue Growth	-2.15%	13.16%	8.59%
EBITDA Growth	1.22%	11.73%	22.36%
<u>Liquidity & Leverage</u>			
Current Ratio	1.57%	1.70%	1.69%
Quick Ratio	1.32%	1.42%	1.40%
Debt Ratio (TD/TA)	45%	44%	51%
Debt - to -Equity Ratio	0.80 x	0.80 x	1.03 x
EBIT Coverage (EBIT / Int. Charges)	25.52 x	28.69 x	63.85 x
EBITDA-CapEx / Cash Interest Paid	13.16 x	10.82 x	27.42 x
Altman's Z Score (> 2.675%)	4.10	4.23	3.84
<u>Asset Management</u>			
Average AR collection Days	39.69	40.60	39.81
Average Inventory Holding Days	4.95	4.78	4.72
Average Payables pmt Days	18.92	18.64	17.86
Cash Conversion Cycle Avr Days (ARd+Ind-Pyd)	25.72	26.74	26.68
Fixed Asset Turnover (Rev / net FA)	2.41 x	2.53 x	2.47 x
Total Asset Turnover (Rev / TA)	1.39 x	1.44 x	1.43 x
<u>DuPont</u>			
ROS (NPAT / Rev)	3.41%	3.69%	4.76%
Asset Turnover (Rev/ TA)	139.48%	143.52%	142.73%
Equity Multiplier (TA / Eq)	180.31%	179.93%	203.05%
ROE	8.57%	9.54%	13.80%
ROA	4.75%	5.30%	6.80%
<u>Market Based & Divided Policy</u>			
Dividend per share	\$ 0.44	\$ 0.48	\$ 0.52
Earnings per Share - EPS	\$ 3.78	\$ 4.61	\$ 6.44
Payout Ratio	12%	10%	8%
Price @ FYE	\$83.49	\$93.64	\$89.14
PE Ratio (Price / Earnings)	22.09 x	20.31 x	13.84 x
Book Value per Share	\$43.97	\$48.01	\$46.46
Market / Book Ratio	1.90 x	1.95 x	1.92 x

Impediments in the Development of Teacher Talent: A Study in Selected State Universities of Karnataka, India

Mrs. Preethi Keerthi DSouza

Assistant Professor

Department of Post Graduate Studies and
Research in Commerce,
Mangalore University,
Mangalore, 574199.

preethi_ds@rediffmail.com

Phone no: +919845596555

Prof P. Pakkeerappa

Professor,

Department of Business Administration,
Mangalore University,
Mangalore, 574199.

Ms. P.V Sumitha

Assistant Professor

Department of Business Administration,
AIMIT, St. Aloysius College,
Mangalore 575022

sumithaachar@yahoo.com

Phone no. : +919980885896

Abstract

A talent is a creator, a change initiator and a knowledge generator. Talents are the spirits of any venture. Teachers are a talent community in the universe of education and universities are helm of higher education. Universities constitute an integral part in the development of any nation. The core purpose of a University is to impart education for life and this is done with the help of facilitators and they are the teachers or faculty. In the academic setup, students are taught the concepts of talent management and they implement it in the work places that they join or start. But the irony is that it is not fully implemented in universities even after knowing the results of its implementation. The present research is exploratory in nature and is an attempt to know the perceptions of teachers, on the role of universities to manage talent i.e. the teacher talent in particular. The main objective of the study is to examine the reasons restricting the development of teacher talent. Thus this study is conducted in the selected state universities of Karnataka. Sample frame consists of 24 state universities. There are 11 general state universities and all eleven are taken for the study and are categorized into two groups (A and B) based on the year of their establishment and academic parameters. The respondents for the present study are teachers of all cadres, i.e. assistant professors, associate professors and professors from various streams and departments. The researchers have used the opinionnaire method of field survey research through questionnaires and personally interviewed the respondents. The population of the study was 1426 teachers. Approximately 25 % of the population from each cadre was taken as the sample size which is 340 respondents who partially fulfill the requirements of efficiency, representativeness, reliability and flexibility. The developed framework and the data in the study provide a meaningful insight into developing teacher talent as teachers are one of the major talent communities in universities. The study gives an insight into many issues of developing teacher talent who in turn shall ignite the talent in students who will be the inputs to corporates. The factors restricting the teacher talent are identified and there is a difference in the factor components among groups that restrict teacher talent. Majority of the respondents in the study agree that development of their talent is restricted by the lengthy regulations and unclear rules of universities followed by the lethargic attitude of officials in the administrative section.

Keywords: State Universities, Teachers, Talent Management, Talent pool, Restricting Factors.

INTRODUCTION

Universities constitute an integral part in the development of any nation. The core purpose of a University is to impart education for life and this is done with the

help of facilitators and they are the teachers/ faculty.

The philosophy of people management is based on the belief that human resources are uniquely important to sustain success. An organization gains

competitive advantage by using its people effectively, drawing on their expertise and ingenuity to meet clearly defined objectives. Human resource management is aimed at recruiting capable, flexible and committed people, managing and rewarding their performance and developing key competencies. Today, talent is recognized as an important part of an organisations ability to meet their goals (Decenzo & Robbins, 2002) and the concept that recently has received most attention is Talent Management (Sandler, 2005).

Briefly, Talent Management (TM) is about sourcing, recognizing, recruiting, developing, promoting and retaining people that are high potentials and can grow within the organization as agreed by Laff (2006); Uren (2007); Berger and Berger (2004); and Schwyer (2004). The term of talent management is usually associated with competency based human resource management and management practices.

WHY TALENT MANAGEMENT IS ESSENTIAL IN HIGHER EDUCATION?

Administrations in higher education can truly benefit from achievements that talent management has had on organizations within other industries. Despite the notion of wanting to be different from the business world, institutions must realize growing talent from within can be of considerable benefit, especially given the current economic climate, increasingly competitive environment for human capital, and the ongoing need of being accountable to its constituents. Clunies (2007) acknowledged that innovative colleges and universities are examining the value of talent development as a cost effective process to the transitioning of power and authority. Colleges and universities, now more than ever, need to ensure the right person is serving in the appropriate position (Heuer, 2003). Colleges and universities that accept the challenge to build talent

from within to meet impending leadership requirements will certainly gain an advantage on peer institutions in this competitive climate (Mackey, 2008).

In the academic setup, students are taught the concepts of talent management and they implement it in the work places that they join or start. But the irony is that TM is not fully implemented in universities even after knowing the results of its implementation. Wolverton & Gmelch (2002) confirmed the limited amount of research related to talent management in higher education is carried and they suggested that few institutions embrace formal developmental programs and leave the growth opportunities to chance instead of relying on a systematic and focused process. Lynch (2007) suggested that colleges and universities fall short of business and industry in developing their own talent. One would expect that, in a knowledge economy, the producers of knowledge would value talent management and even have a competitive edge in that realm. Clunies (2007) suggested that higher education has historically been slow to adopt many corporate management processes. The same is the case with accepting talent management in the academic circle.

LITERATURE REVIEWS ON THE ABSENCE OF DEVELOPING TALENT AT COLLEGES AND UNIVERSITIES:-

According to Butterfield (2008) higher education is historically an egalitarian culture resistant to formal identification of heirs apparent. In fact, very few studies have been published addressing the TM strategies within four year colleges and universities. Wolverton & Gmelch (2002) confirmed the limited amount of research related to TM in higher education in which they suggested that few institutions embrace formal developmental programs and leave the growth

opportunities to chance instead of relying on a systematic and focused process. Lynch (2007) as stated earlier suggested that colleges and universities fall short of business and industry in developing their own talent. One would expect that, in a knowledge economy, the producers of knowledge would value talent management and even have a competitive edge in that realm. He also stated that most institutions perform well in developing their students, but fall short of assisting their managerial staff in their own skill development. Clunies (2007) also suggested that higher education has historically been slow to adopt many corporate management processes. The same is the case with accepting talent management. Heuer (2003) believed the concept of talent management in higher education is an area that continues to remain largely unexplored. Such comments raise concerns about the lack of attention talent management has been given in our industry.

While many institutions do not appear to be investing in their talent through formal methods, the business sector continues to comprehend the value that colleges and universities provide to their own workforces. In other words, institutions are doing well to serve outside organizations in their training and development needs while limiting such benefits to internal personnel. This gap is assessed and hence this study.

RESEARCH METHODOLOGY

Significance of Research

The present study is an attempt to know the perceptions of teachers, on the role of universities to manage talent i.e. the teacher talent in particular. The main purpose of the study is to examine the impediments in the development of teacher talent in the state universities of Karnataka.

SCOPE OF THE RESEARCH

The study is conducted in the selected state universities of Karnataka. Only general state universities are selected for the purpose of the study. The study has both primary and secondary data and is confined to teachers only. Out of the 24 State universities there are 11 general state universities and all eleven are taken for the study. Further 6 universities are categorized as group A and 5 universities are categorized as group B universities based on the year of their establishment and academic parameters such as departments strength, infrastructure facilities and research activities.

The respondents for the study are teachers of all cadres, i.e. assistant professors, associate professors and professors from various streams and departments. The researcher has used the opinionnaire method of field survey research through questionnaires.

OBJECTIVES

- To test if teachers are considered as talent pool in the field of education.
- To examine the factors restricting the development of teacher talent.
- To explore factors acting as impediments in the development of teacher talent.

Sampling Design

In the study probability sampling method is used using random number tables. A purposive sampling is used as the universe in this study happens to be small and finite. The population of the study was 1426 teachers. The entire population was divided in the cadre of assistant professors, associate professors and professors and also divided based on faculties of study. Only complete questionnaires based on the faculties, science 155 out of 161

respondents, commerce 27 out of 31 respondents, arts 139 out of 144 respondents, law 5 respondents and education 14 respondents were taken as the sample size for the purpose of the study which totals to 25% of the population. Thus only 340 respondents were taken as the sample size for the study.

Research Limitations:

The study is restricted to only the state universities of Karnataka and is limited to teachers only. Only 340 teachers form the study core group. The database could be further enlarged to make more detailed analysis possible. Expanding the research to include other university types in other states too would enable one to analyze differences between different university types.

DATA ANALYSIS AND INTERPRETATION

SOCIO DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

With reference to the Table 5.1 A which demonstrates the demographic details of categorical variables, it can be inferred that 78.5% of the respondents in the study were male and 21.5% of the respondents were female. 87.7% respondents were married. 36.5% of the respondents of the study were professors, 32.4% of them were associate professors and 31.2% of the respondents were assistant professors. 43.5% of the respondents were from science stream and 37.6% were from the arts stream.

Table 5.1 B explains the demographic details of quantitative variables. The group A universities have more number of employees who are above 45 years where as group B universities have more number of young employees. 57.8 % respondents had two or more children and 36.4% respondents had only one child. The average experience of teachers was 19 years. In the study group

A universities had more experienced teachers when compared to group B university teachers.

Table 5.1 C elaborates the education profile of respondents. Thus it can be concluded that among various university respondents, SLET pass percentage was 13.5%, NET pass percentage was 31.8%. 24.4% respondents had an M.Phil and 90.6% respondents have a PhD degree. Only 10% had a post-doctoral degree.

Table 5.1 D explains the performance profile of respondents. The data in the table indicates that teachers are performing on the parameters that are essential such as paper publishing, authoring books, attending and organizing conferences, minor and major project works and guiding students for M.Phil and PhD.

DATA TESTING IF TEACHERS ARE CONSIDERED AS A TALENT POOL IN THE FIELD OF EDUCATION

From the Table 5.2, it is observed that 301 (88.5%) respondents agree that teachers were a talent pool in the field of education. In the Group A universities 232 (87.9%) respondents gave a positive view and in Group B universities 69 (90.8%) respondents were of the same opinion. Thus it can be noted that majority of the respondents agreed that teachers were a talent pool in the field of education.

DATA EXAMINING THE FACTORS RESTRICTING THE DEVELOPMENT OF TEACHER TALENT

H_0 : There is no significant difference in the mean scores of group A and group B towards factors restricting the development of teacher talent.

H_1 : There is significant difference in the mean scores of group A and group B towards factors restricting the development of teacher talent.

From the Table 5.3, it can be inferred that the respondents of Group A and B universities differ in their opinion towards the lack of self interest and personal health reasons. This difference of opinion is arising because the respondents of Group A and B universities differ in the experience and age factors.

EXPLORING FACTORS ACTING AS IMPEDIMENTS IN THE DEVELOPMENT OF TEACHER TALENT BY FACTOR ANALYSIS

Exploring 17 statements through Factor Analysis, the impediments that are restricting the development of teacher talent were identified. Efforts are made to evaluate if these statements could be grouped in significant few factors as shown in the Table 5.4. Validity of factor analysis is tested by verifying KMO and Bartlett's test which shows that the sample is adequate i.e. $0.799 > 0.5$ and there is also a variation among the statements under consideration as Bartlett's test of sphericity is significant as $p=0.000 < 0.01$. Factor analysis identified 5 factors (F1, F2, F3, F4 and F5) with variation explained by 58.7%. The first factor (F1) explained 17.2% of variation and the component is named as 'University factors' followed by (F2) 'Departmental factors' with 12.6 % variance, (F3) 'Personal factors' with 10.5% variance, (F4) Transparency factors with 9.18 % variance and (F5) 'Remunerative factors' with 9.1% variance. Above factors explored contribute in total 58.7% of total variation and thus there is a scope for further research by increasing the areas restricting the development of teacher talent.

PRACTICAL IMPLICATIONS

The developed framework and the data in the study provide a meaningful insight into developing teacher talent as teachers are one of the major talent communities in universities. The findings are clear that there are significant

differences between the attitudes of the respondents among the group A and group B universities with regard to the way talent is managed in universities. The study also gives an insight into many issues of developing teacher talent who in turn shall ignite the talent in students who are the inputs to corporates.

CONCLUSION

The study identifies the factors restricting the development of teacher talent in state universities. Universities must work towards reducing the inconveniences which are in their preview and that cause hurdles in the development of teacher talent. Universities must even support faculty in order to bring out the best in them which will have the lasting impact on students in particular and society in general.

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ANNEXTURE

	Universities	Year	Total	f	%
Group A Universities N = 264	Bangalore University (Bangalore)	1964	273	63	18.5
	Gulbarga University (Gulbarga)	1980	154	35	10.3
	Karnatak University (Dharwad)	1949	189	46	13.5
	Kuvempu University (Shimoga)	1987	122	30	8.8
	Mangalore University (Mangalore)	1980	111	30	8.8
	University of Mysore (Mysore)	1916	291	60	17.6
Group B Universities N = 76	Davangere University (Davangere)	2009	28	9	2.6
	Karnataka State Women University (Bijapur)	2003	71	20	5.9
	Rani Channamma University (Belgaum)	2010	51	13	3.8
	Tumkur University (Tumkur)	2004	97	24	7.1
	Vijayanagara Sri Krishnadevaraya University (Bellary)	2010	39	10	2.9
	Total		1426	340	100

Table - 5.1 A
Demographic details- Categorical variables

Demographic Details	Group A Universities		Group B Universities		Total	
	f	%	f	%	f	%
GENDER						
Male	207	78.4%	60	78.9%	267	78.5%
Female	57	21.6%	16	21.1%	73	21.5%
Total	264	100 %	76	100 %	340	100 %
MARITAL STATUS						
Unmarried	16	6.1%	16	21.1%	32	9.4%
Married	245	92.8%	60	78.9%	305	89.7%
Divorcee	2	.8%	0	.0%	2	.6%
Widow/ Widower	1	.4%	0	.0%	1	.3%
Total	264	100.0%	76	100.0%	340	100.0%
DESIGNATION						
Assistant Professor	67	25.4%	39	51.3%	106	31.2%
Associate Professor	85	32.2%	25	32.9%	110	32.4%
Professor	112	42.4%	12	15.8%	124	36.5%
Total	264	100.0%	76	100.0%	340	100.0%
STREAM						
Science	127	48.1%	21	27.6%	148	43.5%
Commerce & Management	23	8.7%	17	22.4%	40	11.8%
Arts	103	39.0%	25	32.9%	128	37.6%
Law	1	0.4%	0	0.0%	1	0.3%
Education	10	3.8%	13	17.1%	23	6.8%
Total	264	100.0%	76	100.0%	340	100.0%

Table - 5.1 B
Demographic details- quantitative variables

Demographic Details	Group A Universities		Group B Universities		Total		Mean	S.D
	f	%	f	%	f	%		
AGE IN YEARS								
25-35	27	10.2%	20	26.3%	47	13.8%	45.36	8.62
36-45	83	31.4%	38	50%	121	35.6%		
46-55	110	41.7%	16	21.1%	126	37.1%		
Above 55	44	16.7%	2	2.6%	46	13.5%		
Total	264	100%	76	100%	340	100%		
NO OF CHILDREN								
One	95	38.3%	17	28.3%	112	36.4%	2.26	1.55
Two and More	142	57.3%	36	60.0%	178	57.8%		
No issues	11	4.4%	7	11.7%	18	5.8%		
Total	248	100.0%	60	100.0%	308	100.0%		
TEACHING EXPERIENCE								
	f	%	Minimum	Maximum	Mean	Std. Deviation		
Group A	264	77.65%	4.00	38.00	20.33	8.38		
Group B	76	22.35%	1.00	37.00	13.41	7.72		
Total	340	100%	1.00	38.00	18.79	8.72		

Table - 5.1 C
Education Profile of Respondents

	Group A Universities		Group B Universities		Total	
	f	%	f	%	f	%
SLET Passed						
Yes	31	11.7	15	19.7	46	13.5
No	233	88.3	61	80.3	294	86.5
Total	264	77.65	76	22.35	340	100
NET Passed						
Yes	75	28.4	33	43.4	108	31.8
No	189	71.6	43	56.6	232	68.2
Total	264	77.65	76	22.35	340	100
UGC JRF						
Yes	11	4.2	2	2.6	13	3.8
No	253	95.8	74	97.4	327	96.2
Total	264	77.65	76	22.35	340	100
M Phil						
Yes	62	23.5	21	27.6	83	24.4
No	202	76.5	55	72.6	257	75.6
Total	264	77.65	76	22.35	340	100
Ph D						
Yes	247	93.6	61	80.3	308	90.6
No	17	6.4	15	19.7	32	9.4
Total	264	77.65	76	22.35	340	100
Post-doctoral						
Yes	31	11.7	3	3.9	34	10
No	233	88.3	73	96.1	306	90
Total	264	77.65	76	22.35	340	100

Table - 5.1 D
Performance Profile of Respondents

Source	Group A Universities				Group B Universities				Total		
	F	%	Mean	SD	F	%	Mean	SD	F	Mean	SD
Paper published in National Journals	253	77.61	22.92	15.00	73	22.39	14.92	10.00	326	19.75	21.61
Paper published in International Journals	214	78.10	14.28	21.49	60	21.90	7.78	9.44	274	12.85	19.67
National books authored	67	66.34	3.64	5.42	34	33.66	4.35	5.42	101	3.88	5.41
International Books Authored	18	75	2.39	2.30	6	25	2.33	2.80	24	2.38	2.37
National books edited	72	80	1.92	1.35	18	20	4.50	4.33	90	2.43	2.47
International Books Edited	7	77.78	2.71	1.98	2	22.22	3.00	1.41	9	2.78	1.79
Regional conferences attended	151	75.12	12.09	13.10	50	24.88	8.52	9.19	201	11.20	12.32
National conferences attended	255	77.98	24.70	23.46	72	22.02	17.60	12.82	327	23.14	21.75
International conferences attended	232	79.45	8.59	9.83	60	20.55	6.97	6.49	292	8.26	9.25
Papers presented in regional conferences	141	74.21	10.67	11.81	49	25.79	7.14	8.21	190	9.76	11.08
Papers presented in national conferences	255	77.98	24.48	25.12	72	22.02	13.85	11.14	327	22.14	23.20
Papers presented in International conferences	234	79.86	8.76	12.47	59	20.14	6.83	6.70	293	8.38	11.56
Regional conferences organized	46	73.02	3.87	3.35	17	26.98	2.65	2.32	63	3.54	3.14
National conferences organized	118	76.13	2.32	1.94	37	23.87	2.59	1.94	155	2.39	1.94
International conferences organized	33	86.84	1.48	.80	5	13.16	2.40	2.61	38	1.61	1.17
Sessions chaired in regional conferences	50	72.46	6.24	6.03	19	27.54	3.37	3.04	69	5.45	5.50
Sessions chaired in national conferences	158	82.29	6.78	8.97	34	17.71	3.26	3.24	192	6.16	8.35
Sessions chaired in international conferences	66	91.67	3.47	8.51	6	8.33	1.33	.52	72	3.29	8.16
Invited lectures in regional conferences	134	77.91	9.63	12.94	38	22.09	8.92	19.51	172	9.47	14.58
Invited lectures in national conferences	194	82.20	10.01	12.13	42	17.80	5.19	6.36	236	9.15	11.46
Invited lectures in international conferences	61	91.04	5.16	9.67	6	8.96	4.83	4.26	67	5.13	9.29
Refresher/ training programs attended	226	78.75	2.49	1.97	61	21.25	2.54	1.88	287	2.50	1.95
Completed minor research projects	74	80.43	1.59	1.11	18	19.57	1.67	1.64	92	1.61	1.22
Ongoing minor research projects	22	73.33	1.18	.39	8	26.67	1.13	.35	30	1.17	.38
Completed major research projects	108	87.10	2.29	2.95	16	12.90	2.19	2.56	124	2.27	2.89
Ongoing major research projects	73	87.95	1.23	.64	10	12.05	1.30	.67	83	1.24	.64
M.Phil (completed) candidates guided	132	85.16	7.29	7.94	23	14.84	5.91	5.91	155	7.08	7.67
M.Phil (Ongoing) candidates guiding	34	80.95	2.88	2.40	8	19.05	2.75	1.39	42	2.86	2.23
PhD (completed) candidates guided	165	89.19	5.95	6.14	20	10.81	4.10	3.35	185	5.75	5.92
PhD candidates to be guided	210	86.42	4.91	1.78	33	13.58	4.94	2.15	243	4.92	1.83

Table - 5.2
To test if teachers are considered as a talent pool in the field of education

Teachers are a talent pool in the field of education	University				Total	
	Group A Universities		Group B Universities			
	f	%	f	%	f	%
Yes	232	87.9%	69	90.8%	301	88.5%
No	8	3.0%	1	1.3%	9	2.6%
Undecided	24	9.1%	6	7.9%	30	8.8%
Total	264	100.0%	76	100.0%	340	100.0%

Table - 5.3
Examining the factors restricting the development of teacher talent

Statements	University	N	Mean	S.D	Mann Whitney test	P-Value	Result
The lengthy regulations and unclear rules of universities restricts the development of teacher talent	Group A	264	2.35	.92	.52	.605	NS
	Group B	76	2.41	.97			
	Total	340	2.36	.93			
The way of functioning by the present heads of the university restrict the development of teacher talent	Group A	264	2.62	.98	1.57	.116	NS
	Group B	76	2.43	1.01			
	Total	340	2.58	.99			
Personal health/ family issues restrict the development of teacher talent	Group A	264	3.44	1.00	2.23	.026	SIG
	Group B	76	3.09	1.20			
	Total	340	3.36	1.05			
Departmental politics and politicking restricts the development of teacher talent	Group A	264	2.75	1.15	.63	.526	NS
	Group B	76	2.84	1.13			
	Total	340	2.77	1.14			
Lack of mentoring and guidance from seniors and university officials restricts the development of teacher talent	Group A	264	2.84	1.15	.34	.732	NS
	Group B	76	2.78	1.07			
	Total	340	2.82	1.13			
The effect of 'seniority' at all levels restrict the development of teacher talent	Group A	264	2.90	2.79	.49	.622	NS
	Group B	76	2.67	1.10			
	Total	340	2.85	2.52			
Teaching is financially not a rewarding profession so it restricts the development of teacher talent	Group A	264	3.45	1.13	1.63	.103	NS
	Group B	76	3.20	1.19			
	Total	340	3.39	1.15			
High egoistic nature of fellow teachers restrict the development of teacher talent	Group A	264	2.91	1.19	.35	.727	NS
	Group B	76	2.86	1.24			
	Total	340	2.89	1.20			
I have already reached the helm and do not require further development	Group A	264	3.93	.96	1.22	.221	NS
	Group B	76	3.67	1.23			
	Total	340	3.87	1.03			

Lack of self interest restrict the development of teacher talent	Group A	264	3.97	1.03	2.51	.012	SIG
	Group B	76	3.57	1.24			
	Total	340	3.88	1.09			
Vacancies not being filled at the department level restrict the development of teacher talent	Group A	264	2.59	1.12	1.78	.074	NS
	Group B	76	2.87	1.21			
	Total	340	2.66	1.15			
Lack of support staff/ clerks in the department restricts the development of teacher talent	Group A	264	2.48	1.08	.08	.933	NS
	Group B	76	2.50	1.13			
	Total	340	2.49	1.09			
Lack of opportunities at work place to showcase talent restrict the development of teacher talent	Group A	264	2.55	1.09	.06	.955	NS
	Group B	76	2.54	1.08			
	Total	340	2.55	1.08			
Restricted financial assistance to attend conferences restricts the development of teacher talent	Group A	264	2.69	1.18	.39	.698	NS
	Group B	76	2.63	1.19			
	Total	340	2.67	1.18			
Favoring based on caste/ religion is a major hindrance to perform well and this restricts the development of teacher talent	Group A	264	2.65	1.14	.59	.558	NS
	Group B	76	2.74	1.15			
	Total	340	2.67	1.14			
Lethargic attitude of officials in the administrative section restrict the development of teacher talent	Group A	264	2.40	1.13	.65	.518	NS
	Group B	76	2.45	1.00			
	Total	340	2.41	1.10			
Influence of politics in academic functioning restrict the development of teacher talent	Group A	264	2.46	1.18	1.69	.092	NS
	Group B	76	2.70	1.12			
	Total	340	2.51	1.17			

Table - 5.4
Exploring factors acting as impediments in the development of teacher talent by factor analysis

	Component					Factor
	1	2	3	4	5	
Lack of opportunities at work place to showcase talent restrict the development of teacher talent	.719					F1
Restricted financial assistance to attend conferences restricts the development of teacher talent	.711					
Favoring based on caste/ religion is a major hindrance to perform well and this restricts the development of teacher talent	.669					
Influence of politics in academic functioning restrict the development of teacher talent	.639					
Lethargic attitude of officials in the administrative section restrict the development of teacher talent	.637					

Lack of support staff/ clerks in the department restricts the development of teacher talent	.594					
Lack of mentoring and guidance from seniors and university officials restricts the development of teacher talent		.716				F2
Departmental politics and politicking restricts the development of teacher talent		.655				
High egoistic nature of fellow teachers restrict the development of teacher talent		.566				
The effect of 'seniority' at all levels restrict the development of teacher talent		.558				
Lack of self interest restrict the development of teacher talent			.826			F3
I have already reached the helm and do not require further development			.804			
The lengthy regulations and unclear rules of universities restricts the development of teacher talent				.787		F4
Vacancies not being filled at the department level restrict the development of teacher talent				.600		
The way of functioning by the present heads of the university restrict the development of teacher talent				.587		
Personal health/ family issues restrict the development of teacher talent					.773	F5
Teaching is financially not a rewarding profession so it restricts the development of teacher talent					.526	
Eigen values	4.7	1.9	1.2	1.1	1.0	
% of Variance	17.8	12.6	10.5	9.18	9.10	
Cumulative % of Variance	17.8	29.9	40.4	49.5	58.7	

KMO=0.799 ; Bartlett's Test of Sphericity = 0.000

Understanding the Role of Packaging in the Supply Chain Activities – A Case Study

Lenin karthikeyan
karthik71@gmail.com

Abstract

Packaging is a primary element in logistics systems. Packaging not only affects every supply chain activity; it is also recognised as having a significant impact on logistics costs and performance. In order for logisticians and packaging experts to acquire insight into packaging-dependent costs and performance, the interactions between packaging systems and logistics systems must be understood. Packaging is a coordinated system of preparing goods for safe, secure, efficient and effective handling, transport, distribution, storage, retailing, consumption and recovery, reuse or disposal combined with maximizing consumer value, sales and hence profit. This article serves as an elementary step towards understanding the role of packaging in the supply chain activities and also helps to explain how packaging related decisions might impact on supply chains. As a case study we have taken Packart Packing and Packaging Co. where we intend to evaluate company's competitive strength relative to key weakness and to identify the specific areas of improvement and provide useful recommendations in order to increase its efficiency.

Key words: Packaging, Supply chain, Efficiency, Protection

THE CONTEXT

Packaging has many benefits at a glance. Hardt argues that functional packaging has improved life of people, because without packaging we would be even less able to nourish the growing world population. Packaging protects products during transport and can increase their life span what advantageously decreases disposal due to spoilage or damage. (Becker, 2010, p-4) Packaging provides benefits not only for companies but also for consumers. It operates marketing strategies as a tool to augment the appeal of items to consumer resulting in less stock going unsold. It also controls the size and quantity of the product which is favourable for companies in order to control inventory and manage the logistics of their product assortment. Package design is considered an integral part of new product development process. In fact, packaging is a mirror that vividly reflects the lifestyles and ideas of each generation.

The function of the packaging is not just to protect the product but also providing information about the contents as well as enabling and facilitating other logistics processes - including transport and handling as well as storage, order processing and warehousing. The correct design of packaging can help lower overall logistics costs and raise the level of supply and/or delivery service. Being the fastest growing business packaging industry faces a lot of challenging issues in the supply chain processes. With the new age of advanced technology and customers needs are increasing, the demands on more cost effective with superior quality and less lead time is increasing. Planning for raw materials, dealing with manufacturing constraints, establishing and monitoring distribution inventory levels, and dealing with significant market demand volatility, are just a few.

This article serves as an elementary step towards understanding the role of packaging in the supply chain

activities and also helps to explain how packaging related decisions might impact on supply chains. As a case study we have taken Packart Packing and Packaging Co. where we intend to evaluate company's competitive strength relative to key weakness and to identify the specific areas of improvement and provide useful recommendations in order to increase its efficiency.

REVIEW OF LITERATURE

In today's world Packaging plays a vital role bringing satisfaction (the term encompassing many existing concepts) to those who consume its contents and added value to those who use it to pack their products. The history of packaging can be traced back to the late XVIII century when the industrial revolution caused a major impact in manufacturing processes [Hine, 1995]. In today's context, packaging acts as a symbol of society's consumption habits and reflection of its progress. Packaging is generally viewed as an indicator of growth and economic well being. Analyzing the relation between a country's GDP and packaging consumption, one concludes that the richer the nation, the higher the quantity and quality of packaging introduced in the market [Letras, 2001, p-1].

Packaging refers to the technology of enclosing or protecting products for distribution, storage, sale and use. Packaging is a coordinated system of preparing goods for safe, secure, efficient and effective handling, transport, distribution, storage, retailing, consumption and recovery, reuse or disposal combined with maximizing consumer value, sales and hence profit (Saghir, 2002,p-6). In few countries packaging is completely integrated into government, business, institutional, industrial and personal use. Packaging is also considered as "an important warehousing and materials management

concern" (Lambert et al. 1998). Ballou (Ballou 1998) considers packaging as a supportive activity to Business Logistics, where he calls it "protective packaging".

The diverse logistics functions of the packaging (i.e) protection, storage, transport, information and handling - are an excellent example of the interdependencies that exist in logistics. As a result, the packaging may be regarded only as a part of the entire logistics system and it affects the cost of every logistical activity (Bowersox, Closs, & Cooper 2002).

The primary functions that packaging must carry out are manifold. Paine (1981), stress that the fundamental functions of packaging: protection, containment, preservation, apportionment, unitisation, convenience, and communication of the product. If we analyze the above functions some are related to logistics and some to marketing. Regarding the fundamental functions of packaging different and conflicting requirements from various types of organisations along supply chain results in potential trade-offs among the marketing and logistics functions of packaging.

Paine (1981) provides a broad and well-established definition of packaging in the three following statements:

- (1) Packaging is a coordinated system of preparing goods for transport, distribution, storage, retailing, and end use*
- (2) Packaging is the means of ensuring safe delivery to the ultimate consumer in sound condition at minimum cost*
- (3) Packaging is a techno-economic function aimed at minimizing costs of delivery while maximizing sales (and hence profits).*

Role of SCM in packaging

Role of Packaging in Logistics

Björnemo, Jönson and Johnsson (2000) describe packaging logistics as:

“The interaction and relationship between the logistical system and the packaging system that add value to the combined, overall, system - the Enterprise”.

Saghir (2002) expands the scope to a supply chain level and includes other aspects than logistics, such as environmental and marketing aspects in his definition of packaging logistics, i.e.

“The process of planning, implementing and controlling the coordinated packaging system of preparing goods for safe, efficient and effective handling, transport, distribution, storage, retailing, consumption and recovery, reuse or disposal and related information combined with maximizing consumer value, sales and hence profit.”

Based on the definitions above one can safely conclude that the interactions between packaging and logistics represent a fundamental aspect in the concept of packaging logistics. Johnsson (1998) presents an integrated approach to packaging and logistics and shows “that there exist interactions and relations between the logistics system and the packaging system that may improve both the value and cost efficiency.

Optimal packaging of a product is a critically important factor in logistics. It serves as a protective layer, a source of information and a prerequisite for efficient and safe storage and rapid transport. Optimal packaging of a product is a critical factor in logistics. And the reason is clear: Without it, many logistics processes could not be performed at all or could be carried out only at great additional cost. The function of the packaging is not just to protect the product. It performs many other jobs as well. These include providing information about the contents as well as

enabling and facilitating other logistics processes - including transport and handling as well as storage, order processing and warehousing.

In the above figure 1, demonstrates that the packaging system is considered as one of other logistical sub-systems as the transport system, inventory management system, order-processing system and warehousing system. Packaging is also considered as “an important warehousing and materials management concern”. Logistics considers packaging as a supportive activity to Business Logistics, where they call it “protective packaging”. This gives some examples of efforts to recognise the role of packaging on various levels, but fails to stretch its influence beyond traditional limited thinking (Christy, 2014, p-

The concept of packaging logistics, besides focusing on the interface between the systems of Packaging and Logistics recognises the interdisciplinary nature of packaging and considers also, among other disciplines, its interfaces with marketing.

Packaging Industry Globally

According to Smithers Pira 2012 survey report the global packaging industry will swell to almost \$820 billion by 2016(refer Fig.2). Driven mainly by increasing demand for packaging in emerging and transitional economies, a 3% per annum growth rate will focus on board products and rigid plastics, with \$40 billion and \$33 billion in cumulative predicted growth respectively to 2016 (Smithers Pira survey report, 2012).

This growth is being driven by a number of broad trends such as growing urbanization, investment in housing and construction, a burgeoning healthcare sector and the rapid development still evident in the emerging economies,

including China, India, Brazil and some eastern European countries (ibid). In 2010, US were the largest consumer for packaging with a demand of \$137 billion; China was close behind at \$80 billion. China is anticipated to surpass the US by 2017, and India will enter the top ten packaging countries with its demand set to almost double in the next five years to \$24 billion.

Insert Fig 2.

Packaging Industry in UAE

According to UK-based BRIC data, the UAE packaging industry is poised to keep growing to hit \$2.3bn in 2016. Across the MENA region, the UAE's packaging sector is the fourth fastest-growing national packaging sector.

In 2008, the local packaging industry suffered as consumption of goods declined — people left the country after losing their jobs. Now, however, the industry is seeing a revival as the economy continues to grow.

Purpose of Packaging

- Physical protection
- Information transmission
- Barrier protection
- Transit
- Safety and security
- Promotional function (Marketing or advertising)
- Convenience

Company's profile

Packart Packing and Packaging is a privately owned packaging company located in Industrial Area of Ajman, UAE. The company was incorporated in 1998. The company has its own design team as well marketing team which helps in design the packaging to the customer's requirements and they maintain a very satisfactory relationship with its suppliers

as well as customers (refer Fig 3 for its organization structure).

Insert Fig 3.

The following are the list of products Packart produces:

Vacuum based thermoforming

- blister trays,
- outer packaging
- promotional packs
- plastic tray inners
- clamshells

for perfume, food, pharmaceutical, electronics and electrical industries.

Designing custom look for any product at a competitive pricing

Provides assembly and sealing of your package

Provides high frequency welding

METHODOLOGY

For this article the research methodology followed is both qualitative and quantitative methods. In qualitative method, a series of interviews and meeting were conducted with staff members as well as the management at Packart Packing and Packaging Co. This research can thus be considered as primarily a quantitative exploratory approach in which case study analysis was done for survey determination. The cases were then subsequently re-analyzed with a few subsequent interviews to understand better the implications of the quantitative results.

Statistical Tools Used

In order to find out the cause for a problem faced by the company Fish Bone analysis and SWOT analysis were used.

Fish Bone Analysis

It has been observed at Packart that there is lot of plastic waste occupying

the warehouse, thereby leading to wastage of space in the warehouse that hinders the production process or manufacturing because of lack of space to store finished goods as well as number of times machines are stopped during manufacturing is high which leads to delay in on time shipments, lead time problems; inventory management problems (certain material shortage and certain materials more.

Insert Fig 4.

Issue

Insert Fig 5.

In the above diagram Fig.5, the main issue is mentioned in the head of the fish. The main issue is that the number of time machine is stopped is high as well as there is high raw material waste after manufacturing.

Cause 1

In Fig 6, the first cause of the problem faced by the company is noted. The first cause is Man or People. The reasons are lack of prior training and experience caused the stopping of the machines during the production process. Due to which a lot of raw material has gone waste.

Cause 2

Figure 7 mentions the second cause for the problem faced by the company. The second cause is Methods or Process. The problem is lack of standard manufacturing procedures and no monitoring during the manufacturing process. Due to which production of product gets delayed.

Cause 3

Figure 8 illustrates the third cause which is the Machine. Due to lack of proper maintenance as well as due to

worn machine parts, the number of times machine had to be stopped and the plastic sheets had to be thrown away is very high.

Cause 4

Fig. 9, the fourth cause mentioned is Environment. Due to lack of knowledge of storage process and also because the warehouse is cluttered and filled with waste of raw material. There is hindrance to manufacturing process.

Cause 5

Fig.10 illustrates the fifth cause which is the Material. Since there is no forecasting technique to decide how much material is required for manufacturing, the company buys in bulk. And sometimes the sheets fed to the machine are not cut according to specification of the product due to worn machine parts.

Cause 6

Fig 11 shows the sixth and the final cause which is Measurement. Since there is no proper waste management or technology upgradation of machines, the raw material waste lays around the warehouse thus occupying unnecessary space.

SWOT Analysis

A company's strategic planning process is dependent upon an internal and external evaluation of strengths, weaknesses, opportunities and threats (SWOT). A SWOT analysis is a process used to identify positive and negative points of the internal and external environment. Data is then analyzed to reveal the truths about where the company stands amongst competitors.

Strengths

The strengths of the packaging industry are the human capital, domestic market is large enough to have a lot of customers. Since customer needs and

preferences are changing, the need for attractive or useful packaging is increasing.

Weakness

The weakness of the packaging industry is the high initial costs. As the UAE market is in competition with China market, the initial costs is twice or thrice the amount in India whereas compared to China where the Government is helping the packaging industry.

Opportunities

The opportunities of the packaging industry lie in the growing demand of customers. Even during recession, packaging industries had income from organizations that were trying to sell their dead stock.

Threats

The threat of the packaging industry is mainly the growing competition in the domestic as well as the global market. Change in rules and regulations frequently, along with rise in price of raw material.

FINDINGS

The findings in this research have resulted in a number of ways through which Packart Packing and Packaging can improve its efficiency with record to its management as well as operations, both in the local market as well as overseas market. Utilization of the available resources properly to the fullest extends and gaining maximum advantage from its employee's something that has to be backed with proper knowledge, of the dealing markets and the related products.

It was found that more than half of the employees are not ready for a change in the way their organization is functioned. They responded that they are fine with the way they are.

Certain obstacles that the organization would be facing while implementing the changes would be as follows:

High investment costs. With the up gradation of technology in machines as well as the number of machines to be purchased, the costs will go very high.

Training the employees for working on the new machines will take time.

It will take some time to get used to the changes for the organization to function smoothly.

The problems that has been affecting the organization is not having proper upgradation of machines as well maintaining the inventory, which then lead to problems in on-time shipments and wastage of raw material. This leads to increase in working hours and thereby having unhappy workers. The inventory turnover is high as well as increase in raw material waste.

RECOMMENDATIONS

Up gradation of technology in machines - Most of the machines used are manually managed. So Upgrade them to automated machines that can make bulk as well small quantities of production units.

Raw material waste that has been accumulating in the warehouse can be given away as scrap. The company have to employ some of the workers to put this raw material waste in the grinder and get them grinded. By selling the grinded raw materials to recycled plastic manufacturers, one can earn profit also as well as increase space in the warehouse.

Awareness campaign of improving the work knowledge of workers on various machines has to be held in the organization. Instead of stacking one roll of plastics sheets one upon the other on the ground far away from the machine, one can store it at a safe distance from the

machine. The company should use recyclable plastics for products other than food for a better environment friendly approach.

Employees should be given training on standard manufacturing process in the new machines due to which there will be less error and wastage of raw material. The company can use Tera-Barrier Films (TBF) for packaging lubricants like grease to be shipped. Then instead of carrying 12 tonnes of grease, one shipment while exporting can carry 24 tonnes.

This new plastic film is made using a revolutionary nano-inspired process that makes the material thinner but as effective as aluminium foil in keeping air and moisture at bay. The stretchable plastic could be an alternative for prolonging shelf-life of pharmaceuticals, food and electronics products.

Using an ERP system which is the latest in supply chain revolution, for the benefit of the company as it will help the company in keeping in track of its raw materials, suppliers, and manufacturing processes as well as keep proper record of the customer feedback along with financials.

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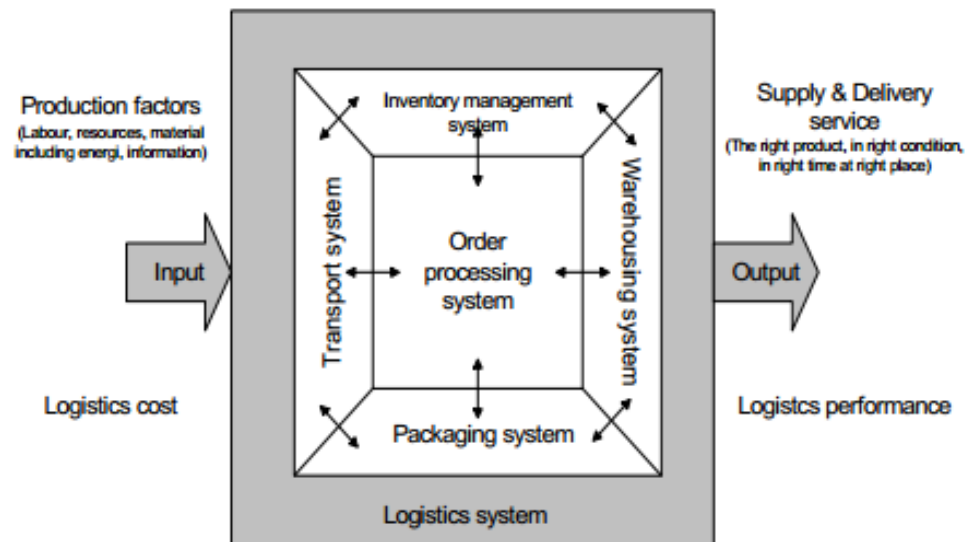
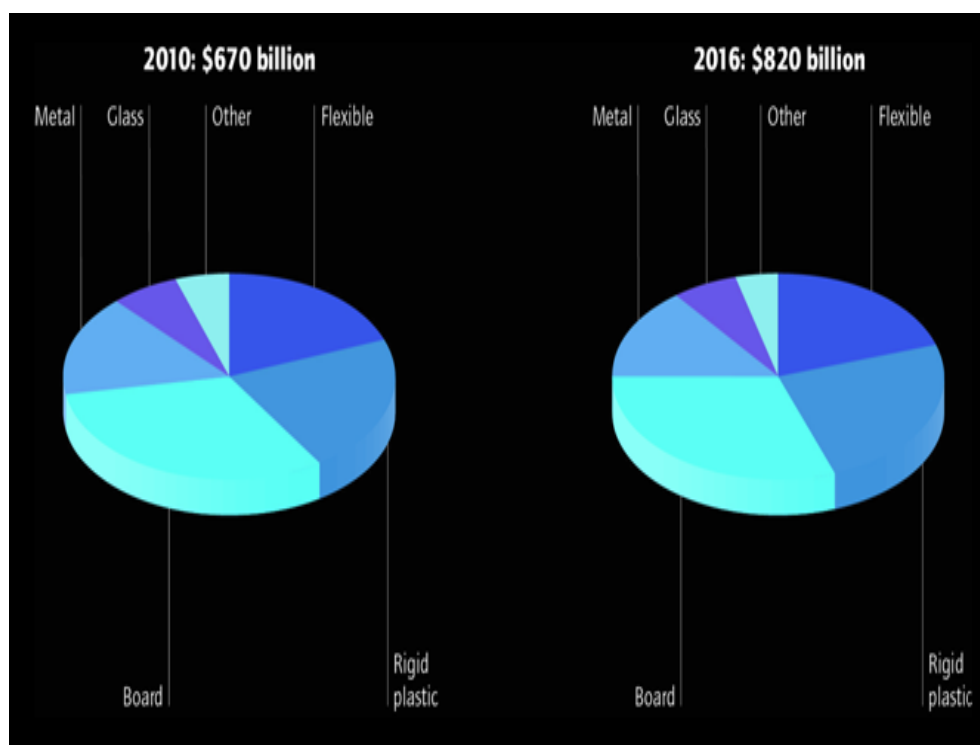
Fig 1. Components of Packaging and Logistics System(Source: Pfohl, 1990)**Fig 2. Global packaging sales by type 2010 vs 2016** (Source: Smithers Pira, 2012)

Fig 3. Organization Structure of Packart Packing and Packaging Co.

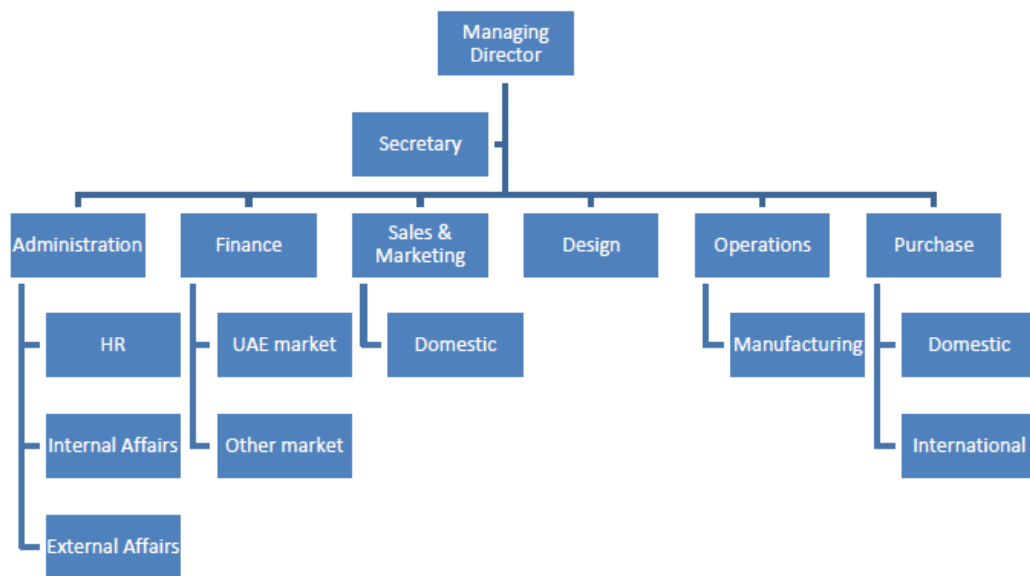


Fig.4 complete diagram of Fish Bone Analysis

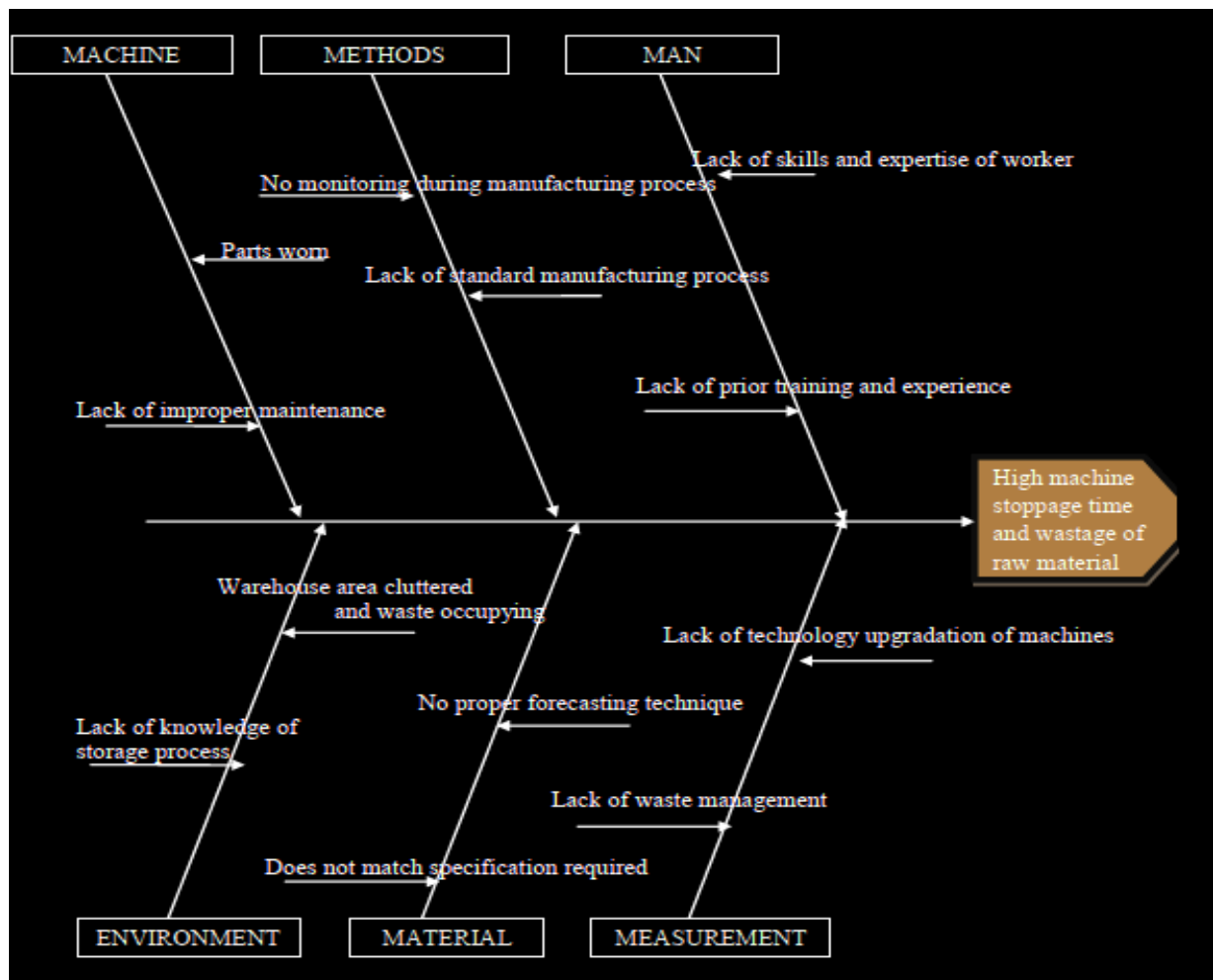


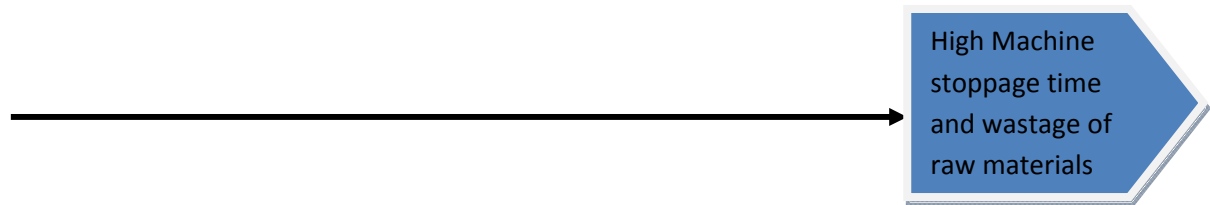
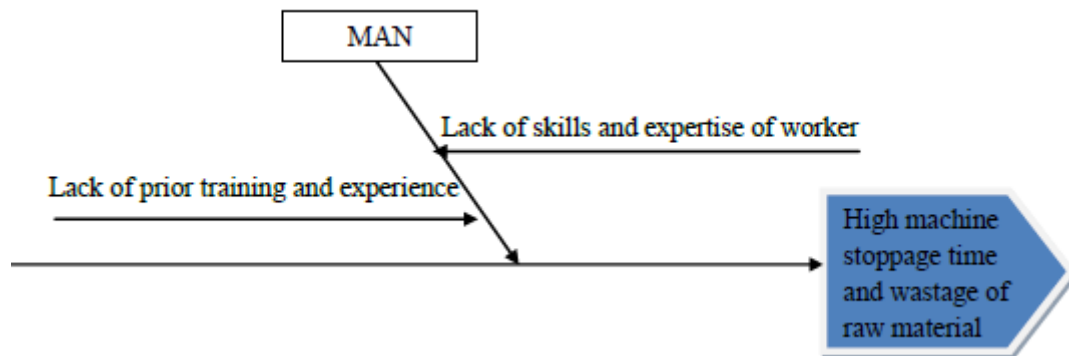
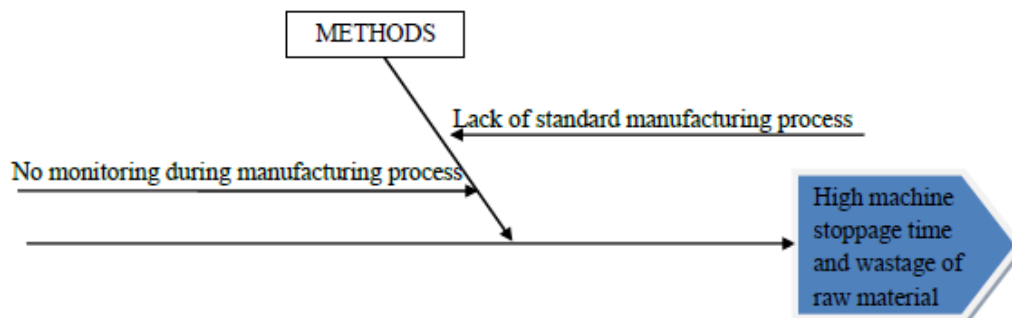
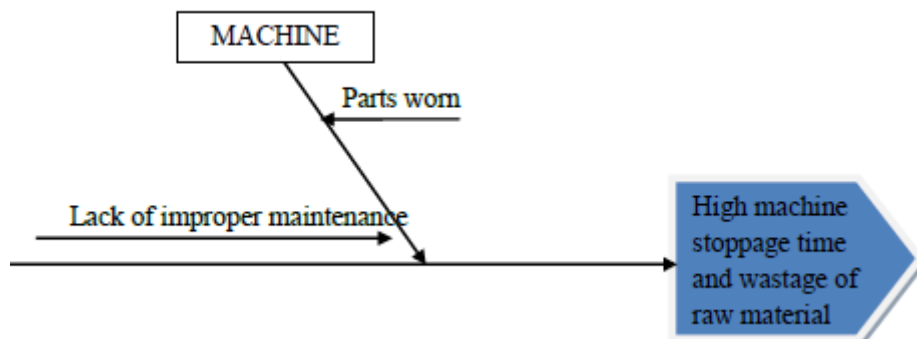
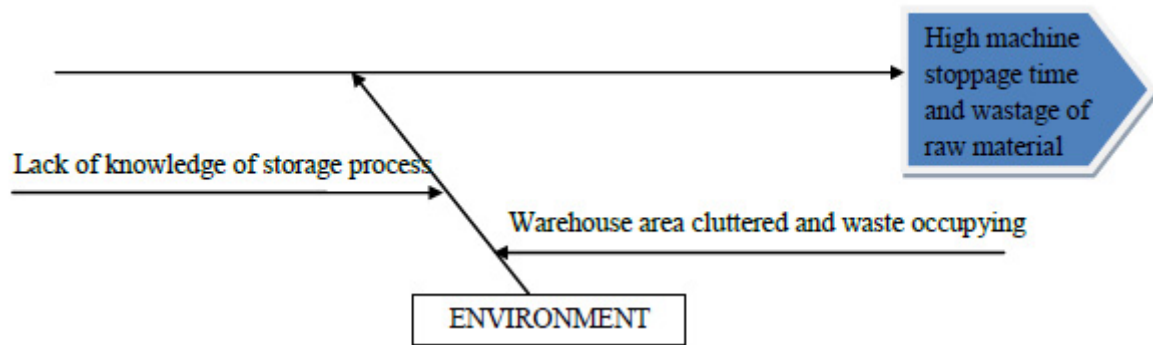
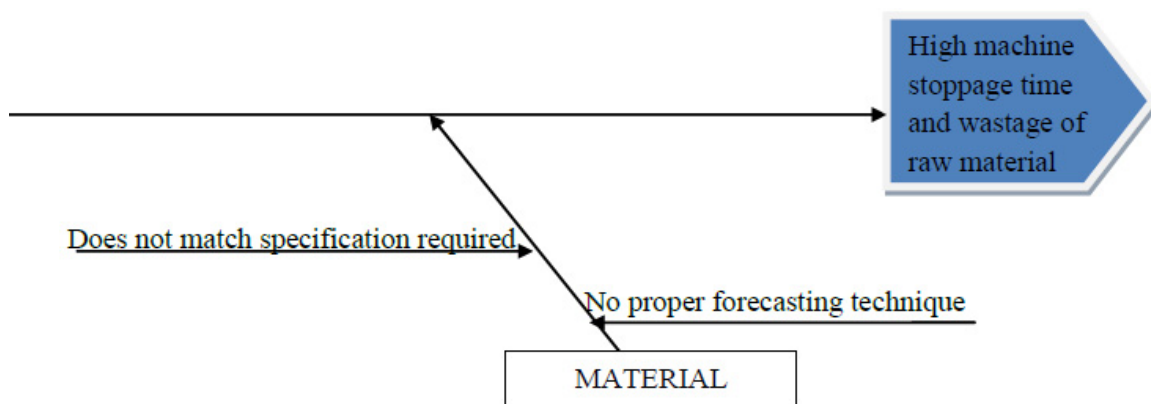
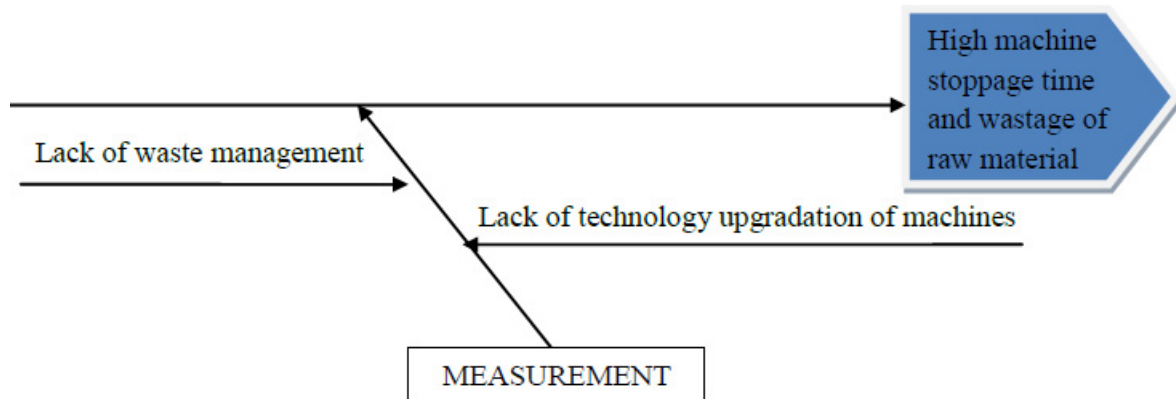
Fig. 5 Fishbone Analysis: Main Issue**Fig. 6 Fishbone Analysis: Cause 1****Fig. 7 Fishbone Analysis: Cause 2****Fig. 8 Fishbone Analysis: Cause 3**

Fig. 9 Fishbone Analysis: Cause 4**Fig. 10 Fishbone Analysis: Cause 5****Fig. 11 Fishbone Analysis: Cause 6**

STRENGTHS	WEAKNESSES
<ol style="list-style-type: none">1. Reduced labour costs2. Skilled workforce3. High profits4. High sales growth rate5. Domestic market is large	<ol style="list-style-type: none">1. High costs2. Too much competition
OPPORTUNITIES	THREATS
<ol style="list-style-type: none">1. New markets2. Income level is at a constant increase3. Growing demand4. New products and services5. New acquisitions	<ol style="list-style-type: none">1. Increasing costs2. Increase in labour costs3. Rising cost of raw materials4. High competition

An Information Technology Based Conceptual Framework for Supply Chain Performance Improvements

AnkitMahindroo
(Assistant Professor)
L M Thapar School of Management
Thapar University, Derabassi Campus
Derabassi, Mohali (Punjab), India
Email: amahindroo@thapar.edu

Dr. PiyushVerma
(Assistant Professor)
L M Thapar School of Management
Thapar University, Derabassi Campus
Derabassi, Mohali (Punjab), India
Email: pverma@thapar.edu

Dr. Harsh VardhanSamalia
(Assistant Professor)
Rajiv Gandhi Indian Institute of
Management
Shillong, India
Email: hvs@iimshillong.in

Abstract

With the modern day organizations competing on all possible aspects of the business and always looking to outdo its competition, managing the performance of the supply chain has become the focus for them for more than a decade. They have been looking for different supply chain strategies to make the best use of the supply chain resources, just to get that additional advantage. One of the most widely used strategies by organizations to improve its communication with its supply chain partners and hence enhance its performance is that of investing in Information Technology (IT). This paper is an effort to review the past supply chain literature and come up with IT specific factors which might impact supply chain performance of organizations. An operations-based IT strategy, IT-systems based information flow, IT integration, IT utilization for logistics and IT capabilities are the factors which have been identified to have an impact on the supply chain performance, which can be measured in terms of financial and operational performance. Finally, a conceptual model has been proposed between these derived IT-related factors and the supply chain performance measures, whose validation in different kinds of organizations, can be an interesting area for future research.

Keywords: supply chain, information technology, strategy, investment, initiative, performance, conceptual.

INTRODUCTION

Intense competition among the firms to be market leader in their respective sectors by getting an additional edge over their competitors have forced organizations to focus more on their operational strategies by enhancing their capacities, automating processes and improving product as well as process quality standards. One of the most critical as well as important dimension where organizations have started emphasizing off late in the past few years is its supply chain network along with the management of its supply chain's processes and activities. With the current advancements in the field of Information Technology, firms find it imperative to invest significantly in information

technology domain for achieving operational excellence in the functioning of their supply chain network.

One of the ways by which the management of an organization are looking forward to strategize with respect to its supply chain in order to streamline its supply chain processes is by investing a large portion of its financial resources in information technology (IT). IT has been playing a huge role in the field of operations by providing dramatic improvements through automation and integration of processes through the use of the best-in-class technologies. Off late, IT has catered to the supply chain needs of the organization with organizations looking to use different kinds of IT systems both in the

forward as well as the reverse supply chain thus attaining both cost and operational advantage.

With the ever increasing use of IT in almost all spheres of business, it has become pertinent for researchers to have a look at how IT benefits the supply chain of the organization in performing better. This paper makes an effort to review the related literature to come up with the contributions of information technology towards the betterment of the organization's supply chain. The structure of this paper involves an extensive review of the supply chain literature in the next section which is followed by conceptual framework, the conclusion and direction for future research.

LITERATURE REVIEW

Supply chain, as a concept, has been stated by researchers both in terms of material flow as well as a combination of material and information flow. In terms of material flow, it has been described as a system comprising of an interlinked network of suppliers, manufacturers, distributors and customers whereby material flows from the suppliers through manufacturers and distributors to the end consumers (Wu & O'Grady, 2004). From both material and information flow perspective supply chain has been explained as a system whose constituent parts include material suppliers, production facilities, distribution services and customers linked together via the feed forward flow of materials and the feedback flow of information (Stevens, 1989).

Supply Chain Performance Measures

Considerable amount of research has been conducted by various researchers in order to deal with number of options available for measuring the performance of firm's supply chain. Organizations have been using both financial and non-financial indicators as a measure of supply chain performance.

Recently, there has been an increasing trend among researchers to make use of non-financial or operational measures such as reduced process cycle time, trust and customer satisfaction to name a few for understanding the supply chain's behavior as well as its performance. Table 1 given below provides a summary of various financial as well as non-financial performance measures of supply chain along with the necessary references.

While the above mentioned measures are more generic and can be applied in most of the scenarios, there has been an increasing trend by organizations towards investing in IT to improve the supply chain processes, performance and efficiency. Having an appropriate operation-oriented IT strategy with respect to supply chain is very critical for an organization since it results in the development of innovation capabilities with respect to the processes thus leading to better financial as well as non-financial performance such as customer satisfaction and service quality (Kim & Kim, 2009) with some researchers also developing an e-supply chain strategy model to optimize the supply chain (Kotzab, Skjoldager, & Vinum, 2003). Another important ingredient leading to these improvements in the performance is the regular and continuous flow of strategic and useful information through the entire supply chain. To maintain this information flow, a certain degree of integration is required across the chain which, to a large extent, is enabled through specific IT investments in different enterprise-wide information systems (IS) (Kim & Narasimhan, 2002; Kohli & Jensen, 2010).

Information Technology and Supply Chain Performance

Information Systems are defined as "a wide variety of computer hardware, communication technology and software designed to handle information related to

one or more business processes" (Flowers, 1996). The smooth flow of information as a result of organization's investment in information technology enables the supply chain partners to take better informed decisions with respect to replenishment of inventory (Lee et al. 2000; Wadhwa et al. 2010), selection of suppliers (Bakos & Brynjolfsson, 1993; Ounnar et al. 2007; Dedrick, Xu, & Zhu, 2008) and expanding the network (Meixell, 2006; Ounnar et al. 2007). This also helps the organization in accruing financial benefits such as improved asset management, reduced cost of operations, enhanced productivity (Klein & Rai, 2009) along with the operational benefits like improved planning, process control, flexibility of resources (Klein & Rai, 2009), improved service time (Subramani, 2004) and better inventory lead times (Lee et al. 2000).

These information systems have the ability to integrate both forward as well as reverse supply chain leading to benefits in terms of cost savings (Kim & Narasimhan, 2002; Lenny Koh, Saad, & Arunachalam, 2006), revenue growth (Rai et al. 2006), operational excellence (Rai et al. 2006), manufacturing flexibility (Wang et al. 2006), lead-time reduction, improved product visibility, reduced time to market (Lenny Koh et al. 2006) and supply chain agility (Swafford et al. 2008).

The degree of realization of IT benefits with respect to the supply chain of an organization are also majorly dependent on the extent to which IT is being utilized by the organization in carrying out its supply chain activities and logistical operations (Kim & Narasimhan, 2002; Ravichandran & Lertwongsatien, 2005). Organizations might have formulated an operation-specific IT strategy (Kim & Kim, 2009) for its supply chain but the corresponding performance improvements only take place depending on the IT utilization by the organizations for carrying

out its supply chain and logistics operations. The more the utilization, the better is the supply chain performance in terms of financial savings and operational efficiency (Kim & Narasimhan, 2002).

Other than the degree of IT utilization, the factor which enable the organizations to interact effectively with its upstream and downstream supply chain partners is the capability of its IT systems (McLaren, Head, & Yuan, 2004). In some researches, the capability of these IT systems have been categorized in terms of system planning (McLaren et al. 2004; Ravichandran & Lertwongsatien, 2005), system development (Ravichandran & Lertwongsatien, 2005), process coordination (McLaren et al. 2004) and operational capability (McLaren et al. 2004; Ravichandran & Lertwongsatien, 2005) and these studies have gone on to depict that varied levels of these capabilities have an impact on how the supply chain of the organization performs.

Based on the above review of literature, it can be derived that there are a number of factors with respect to the development and usage of information technology that tends to improve the supply chain performance of organization; both upstream as well as downstream. Although researchers have made use of various IT related constructs for measuring this impact, the existence of a single integrated model has been found wanting. This work is an effort towards conceptualizing such a model which after being validated through appropriate statistical tools, can be used by organizations to decide on their IT investments to improve upon their supply chain performance.

THE CONCEPTUAL FRAMEWORK

Based on the review of literature, effective operation-based IT strategy, IT system-based information flow, IT integration, IT utilization for logistics and IT

system capabilities in terms of system planning & development, process coordination and operational capability, are important information technology related factors which tends to impact the supply chain performance of the organization. Further, this supply chain performance construct can be divided into two sub-constructs: financial performance and operational performance. A brief description of each of these constructs is given in the Table 2 below.

SCOPE FOR FUTURE RESEARCH

Through this paper, an effort has been made to conceptualize an integrated IT-based model which can be used to enhance the performance of the supply chain. Although an attempt has been made to make it comprehensive and useful, there are a few limitations which need to be addressed.

Firstly, the model that has been conceptualized, is still to be empirically tested, which will in actual, validate the significance and importance of this model. Future studies can focus on testing the model for different kinds of organizations and industries under different possible scenarios though the use of appropriate statistical tools.

Secondly, the model has been proposed based on the supply chain literature for both forward as well as backward supply chain. An effort can be made to study the IT related factors which might impact supply chain performance, separately for the forward and the reverse supply chain, which might lead to different set of results.

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Table - 1
Summary of Supply Chain Performance Measures

S No.	Constructs	Sub-Constructs / Measures	References
1	Financial Performance	Return on Investment	Bhagwat & Sharma, 2007; Gunasekaran & Kobu, 2007
		Profit Margin	Swafford et al. 2008; Olorunniwo & Li, 2010 Skapa & Klapalova, 2012
		Revenue Generated	Rai et al. 2006; Tan & Kumar, 2006; Shaik & Abdul-Kader, 2012
		Cost Saving	Kim & Narasimhan, 2002; Bhagwat & Sharma, 2007; Gunasekaran & Kobu, 2007; Li & Dai, 2009
2	Operational Performance	Process Cycle Time	Gunasekaran & Kobu, 2007; Swafford et al. 2008; Martin & Patterson, 2009; Shaik & Abdul-Kader, 2012
		Production & Service Flexibility	Wang et al. 2006; Bhagwat & Sharma, 2007; Gunasekaran & Kobu, 2007; Swafford et al. 2008
		Product Variety	Gunasekaran & Kobu, 2007; Wadhwa et al. 2010
		Supply Chain Responsiveness	Johnston & Vitale, 1988; Wang et al. 2006; Gunasekaran & Kobu, 2007; Swafford et al. 2008
		Supply Chain Coordination	Chandra & Kumar, 2000; McLaren et al. 2004; Wang et al. 2006
		Trust	Vlachos & Bourlakis, 2006; Kohli & Jensen, 2010; Wadhwa et al. 2010
		Customer Satisfaction	Bhagwat & Sharma, 2007; Gunasekaran & Kobu, 2007

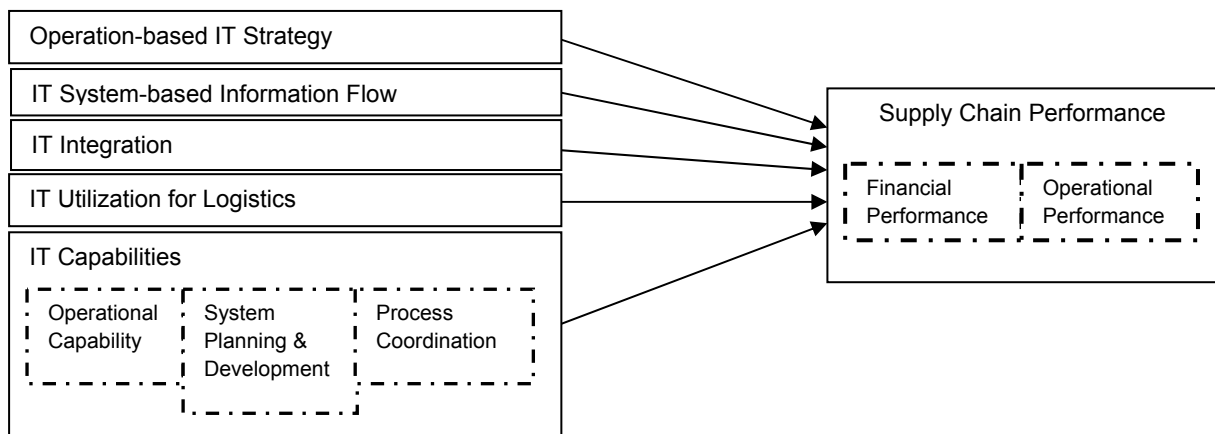
Table - 2
Description of Conceptual Framework Constructs

S No.	Constructs	Description
1	Operation-based IT Strategy	An IT Strategy which is in-line with the operations of the organization
2	IT system-based Information Flow	Real-time flow of information across the supply chain resulting from effective use of IT systems
3	IT Integration	The degree to which IT systems have integrated the business processes across the supply chain
4	IT Utilization for Logistics	The utilization level of IT-based systems for carrying out the logistic operations across the supply chain
5	IT Capabilities	Capability of the IT systems in terms of carrying out system planning, development, process coordination and operations across the supply chain
6	Supply Chain Performance	Performance of the supply chain in terms of financial as well as operational performance

These derivations have been formalized into a conceptual model which has been presented in Figure 1 and can be empirically tested using different statistical tools.

Figure - 1

IT-based Conceptual Framework for Supply Chain Performance Improvement



Quality Management Practices' Grounded Pathway to Higher Supply Chain Performance: An Appraisal

Gaurav Goyal
(Assistant Professor)
L M Thapar School of
Management
Thapar University
Dera Bassi Campus, India
Email: ggoyal@thapar.edu

Dr. Harsh Vardhan Samalia
(Assistant Professor)
Rajiv Gandhi Indian Institute of
Management
Shillong, India.
Email: hvs@iimshillong.in

Dr. Piyush Verma
(Assistant Professor)
L M Thapar School of
Management
Thapar University
Dera Bassi Campus, India
Email: pverma@thapar.edu

Dr. Hergovind Singh
(Assistant Professor)
Maulana Azad National
Institute of Technology
Bhopal, India
Email: Hergovind@gamil.com

ABSTRACT

Manufacturing organizations across the world realize the importance of improving their Supply Chain Performance (SCP). For improving the SCP of manufacturing organizations, top management ought to choose reliable suppliers for ensuring supply of high quality raw material. Further, the smooth flow of relevant information across the supply chain partners is of paramount importance as it aids the firm in selecting most efficient manufacturing practices that in turn tries to make sure that the quality of the finished product received by the end customer is of highest quality. The increase in customer satisfaction thus experienced because of better Quality Management Practices (QMP) results in higher level of SCP. This paper, through a topical review of literature, identifies important QMP constructs that are linked together for obtaining better SCP. A conceptual framework is also proposed that sheds some light on the complex and intertwined nature of QMP and SCP. The proposed conceptual framework can help researchers and industry practitioners in better understanding the way QMP can improve SCP for the manufacturing organizations.

Key words: Quality management practices; supply chain performance; conceptual framework.

INTRODUCTION

In present scenario manufacturing organizations are working rigorously to survive in this hyper-competitive market as they have to deliver on two counterbalancing primary aspects of operations management domain; cost and quality (Romano, 2002). The ever rising demand made by consumers for higher quality products at lower prices are forcing manufacturing professionals to sit up and focus their energy towards performance of their respective supply chain network of the organization. This calls for paying attention to performance of their upstream as well as the downstream supply chain (Lee, Lee & Jeong, 2003). With ever pervasive use of technology on the downstream side leaving few gaps, most firms have shifted their focus to the upstream side of supply chain i.e. the

supplier side. This had resulted into necessity for the organizations to maintain a healthy relationship with their respective suppliers. A healthy relationship in the form of updating supplier with the latest technology and equipment will result in better quality of raw material and thereby resulting in higher overall quality of the end product.

Supply Chain Management (SCM) has been defined as the strategic coordination of business processes within as well as across organizations with the objective of improving performance of individual organizations and that of the entire supply chain (Li, Rao, Ragu-Nathan, & Ragu-Nathan, 2005). One of the important factors in improving the strategic coordination between the business processes is quality of information sharing between the departments and across

whole of the supply chain. Flexibility in both offering and partnering can be improved by having smooth flow of information with the supply chain partners (Gosian, Malhotra & El Sawy, 2005). This ought to result in resolving number of supply chain coordination problems and will improve the overall SCP if the same is managed across various departments by the intervention of top management (Yang, 2008; Hsu, Tan, Kannan & Leong, 2009). Commitment by top authorities ensures that flow of real time information is maintained continuously making both the performance of firm and supply chain to dramatically improve upon as overall quality of the product also foresees a significant increment (Kahnali & Taghavi, 2010; Ou, Liu, Hung & Yen, 2010).

As manufacturing organizations across globe changed their way of production from being an individual based to a more collaborative one, the impact of business practices like QMP on overall supply chain network of the organization also started to increase (Bandyopadhyay & Sprague, 2003; Arauz, Matsuo & Suzuki, 2009). In this context it seems interesting for the researchers to investigate from the literature whether the constructs of QMP can be linked to improve the SCP. The present study through topical review of literature aims to identify the important QMP constructs and then through a proposed conceptual framework attempts to link the thus identified QMP constructs with SCP of the manufacturing based firms under consideration. The following sections of the study include the topical review of literature; linkage of quality management practices with supply chain performance followed by the conclusion.

TOPICAL REVIEW OF LITERATURE

Supply chain and its constructs have attracted many researchers' attention in the last couple of decades and

have been considered as an emerging area of research (Christopher, 1992; Flynn & Flynn, 2005; Talib, Rahman & Qureshi, 2010). Supply chain that earlier used to be considered merely as an upstream and downstream linkage of organizations (Christopher, 1992) has given way to an approach where it creates value through collaboration and integration of various business processes practiced in an organization and with its supply chain partners (Lee, Lee & Jeong, 2003). One of the primary concerns this approach has brought forward for the experts in this domain is that of ensuring quality throughout the supply chain network. Improving the quality of the product in the supply chain is critical as it will make sure that customer is getting the desired finished product. Large number of studies done in different parts of the world like Asia (Mehta, 2004; Kuei & Madu, 2005; Lo, Yeung & Yeung, 2007; Arauz, Matsuo & Suzuki, 2009; Ou, Liu, Hung & Yen, 2010), US (Bandyopadhyay & Sprague, 2003) and Europe (Romano, 2002) depicts that management emphasis is now shifting from focussing only on supply chain to understand supply chain's linkages with quality management practices followed by the organization (Talib, Rahman & Qureshi, 2010). Keeping this in concern the relationship between SCM and QMP has been acknowledged in the literature by various researchers (Kuei, Madu & Lin, 2008; Talib, Rahman & Qureshi, 2010).

Quality Management Practices (QMP) In literature it is hard to find a universally accepted definition of QMP however, the literature also indicates that it can be considered as a collection of techniques designed to improve quality outcomes – primarily for customers but also for employees and the organization (Beaumont, Sohal & Terziovski, 1997). Keeping this definition of QMP in perspective, the relationship between

SCM and QMP, total quality management (TQM) and six-sigma, has been studied by many researchers in managing their supply chain network for achieving excellence and creating value (Kanji & Wong, 1998 (a); 1999 (b); Kuei & Madu, 2001; Romano, 2002; Wong, 2003; Siddiqui, Haleem & Wadhwa, 2009).

To create value in the business processes QMP constructs seems to be linked with the SCP which in turn improves the firm's overall performance (Kuei, Madu, Chow & Lu, 2005; Arauz, Matsuo & Suzuki, 2009). Linking the QMP constructs with the SCM ensures that manufacturing organizations have satisfied customer in the global competitive environment (Mehta, 2004; Kuei, Madu, Chow & Lu, 2005). High degree of customer satisfaction could be achieved through SCM as it ought to result into superior quality, fast delivery and lower cost product (Mehta, 2004).

As top management controls the manufacturing processes of the organization that impacts the customer satisfaction as well as the financial and non-financial performance of the organization (Ou, Liu, Hung & Yen, 2010), top management commitment has also been considered as an important QMP construct that impacts business excellence (Kanji & Wong, 1999). An instrument for QMP implementation in the Indian organizations was developed for organizational quality improvement which states that top management commitment is a critical QMP construct which must focus on quality improvement of the finished product (Joseph, Rajendran & Kamalanabhan, 1999).

For improving the finished product quality, manufacturing organizations must have appropriate manufacturing practices (Kahnali & Taghavi, 2010), which can be achieved if suitable processes are

selected by the top management for manufacturing of the in-process material (Wong, 2001; Kuei, Madu & Lin, 2008). It was observed during the literature review that top management commitment affects both process management and product development thereby improving both internal and external quality of the product (Arauz, Matsuo & Suzuki, 2009). Top management must be strong and committed enough to use total quality management (TQM) and six-sigma approaches for choosing these processes even in the face of opposition by other internal stakeholders (Joseph, Rajendran & Kamalanabhan, 1999; Wang, Du & Li, 2004; Zakuan, Yusof, Laosirihongthong & Shaharoun, 2010). The appropriate process choice will not only result in improvement of operational performance but will also result into achieving customer satisfaction (Ou, Liu, Hung & Yen, 2010).

A satisfied customer will always be ready to buy the product again and it becomes easier for the top management to take operational product feedback from the satisfied customer (Kuei, Madu & Lin, 2008). This feedback can then be incorporated into the product and process design for further improving the operational performance of the organization (Kuei, Madu & Lin, 2008). For receiving this feedback, the top management of the manufacturing organization must be strongly committed to ensure flow and transparency of the information between and within the system so that uncertainty could be managed in the supply chain (Chan & Chan, 2010; Datta & Christopher, 2011). Literature also depicts that not only supply chain managers but operations managers also emphasis on flow and transparency of information between and within the system so that the system could be more flexible (Gosian, Malhotra & El Sawy, 2005; Foster & Ogden, 2007).

Another focus area for the top management to ensure quality product must be to select the right supplier based on cost, quality and delivery (Romano, 2002; Lee, Lee & Jeong, 2003; Mandave & Khodke, 2010). Quality product ought to be supplied through an efficient supplier quality management system which in turn has become an essential vendor selection criterion for many organizations (Bandyopadhyay & Sprague, 2003; Mandave & Khodke, 2010). Industry practitioners have realized that supplier selection based on quality in the global market had been a major issue and by following the ISO series of quality standards this issue can somewhat be resolved (Romano, 2002; Wang, Du & Li, 2004). Supply Chain literature emphasizes on forming a long term relationship with the supplier leading to improved organizational performance that can further result in competitive advantage for the organization (Romano, 2002; Ou, Liu, Hung & Yen, 2010). In order to maintain long term relationship with the suppliers, the manufacturing organizations requires collaboration, development and co-makership (Wong, 2003; Flynn & Flynn, 2005; Yang, Lin & Sheu, 2007). Investigation carried out in the motherboard industry substantiated the same by stating that supplier collaboration affects the interrelationships among new product, product mix and volume flexibility (Yang, Lin & Sheu, 2007). In a multi-nation study of machinery, electronics and transportation components co-makership provided vital inputs in the design of the product and resulted in the overall cost reduction for the firm (Flynn and Flynn, 2005).

Supplier development based on price, production lead time and delivery time is an important criterion in the supplier relationship management and by doing so organizations can get the long

term support from their suppliers to outperform their competitors (Lee, Lee & Jeong, 2003; Wong, 2003). Manufacturing organizations must develop their suppliers by aiding these suppliers in improving their product and process design. Once it is achieved than they can start co-producing the product that markedly improves the finished product quality (Flynn & Flynn, 2005). The quality of the finished product can also be improved through product development and process improvement that are also positively affected by the top management commitment (Arauz, Matsuo & Suzuki, 2009). To make supply chain partnership effective, commitment of the top management has an important role to play as it affects the interaction and goal orientation between the supply chain managers and various supply partners (Wong, 2001).

Linkage between Quality Management Practices Constructs, Customer Satisfaction & Supply Chain Performance with Supporting References: Table1 (given in Appendix) provides a brief description along with supporting references of the quality management practice constructs and customer satisfaction identified on the basis of topical literature.

The review of literature as carried out above depicts that top management commitment, quality of information sharing, supplier relationship, manufacturing practices and customer satisfaction are critical QMP constructs for effective functioning of the organization (Zakuan, Yusof, Laosirihongthong & Shaharoun, 2010; Talib, Rahman & Qureshi, 2011) as well as for achieving better firm performance (Melynk, Lummus, Vokurka, Burns & Sandor, 2009; Kahnali and Tagahavi, 2010). It's clear from the review of literature that very few studies have focused their attention on the linkage between important QMP constructs and

SCP. This paper attempts to bridge this gap in literature by providing a conceptual framework that links the QMP constructs with the SCP as given in the next section.

Linking Quality Management Practices with Supply Chain Performance

From the topical literature review top management commitment, supplier relationship, quality of information sharing and efficient manufacturing practices have been identified as quality management practice constructs that links with customer satisfaction and improves the SCP of the firm for which a conceptual framework has been proposed as shown in Figure 1 (given in appendix). The conceptual framework depicts that while implementing QMP, the firm top management must ensure smooth flow of quality information for the selection of reliable suppliers and manufacturing practices. Once the reliable suppliers have been selected the top management must be committed to develop and co-produce with them to maintain long term relationship. This will help the committed top management to choose appropriate manufacturing practices as they will be aware about the product development and process management at their reliable supplier. By doing so, the customer satisfaction will be achieved and overall results in improved QMP. These improved QMP will result in achieving superior SCP.

CONCLUSION

From the above topical review of literature four QMP constructs were identified that impacts the performance of supply chain. These four constructs namely top management commitment, quality of information sharing, supplier relationship and efficient manufacturing practices were further linked together and presented with the aid of a conceptual framework as discussed in the previous section. The significance of the conceptual

framework is based on topical literature support that suggests its importance for supply chain and its performance. One of the future directions that the present study provides to the researchers could be validating the proposed conceptual framework by collecting primary data from the various manufacturing organizations and applying appropriate statistical tools.

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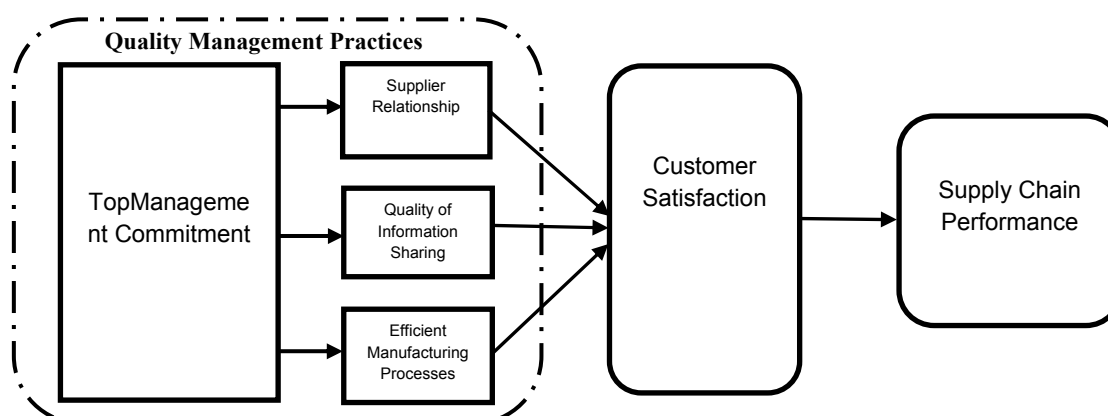
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APPENDIX

Table - 1
Linkage between Quality Management Practices Constructs, Customer Satisfaction & supply chain performance with supporting references

Sr. No	Construct	Construct Description	Supporting References
1	Customer Satisfaction	Customer satisfaction in terms of finished product quality. Customer inputs for process improvement and product development.	Bandyopadhyay & Sprague (2003); Wong (2003); Mehta (2004); Kuei, Madu & Lin (2008); Arauz, Matsuo & Suzuki (2009); Ou, Liu, Hung & Yen (2010).
2	Top management Commitment	Committed for quality data and reporting; Committed for choosing right supplier based on cost and quality; committed for supplier development; committed for choosing right processes for the manufacturing.	Joseph, Rajendran & Kamalanabhan (1999); Kanji & Wong (1999); Wong (2001); Bandyopadhyay & Sprague (2003); Wong (2003); Foster & Ogden (2007); Kuei, Madu & Lin (2008); Arauz, Matsuo & Suzuki (2009); Kahnali & Taghavi (2010); Ou, Liu, Hung & Yen (2010); Talib, Rahman & Qureshi (2010).
3	Quality of information sharing	Level of information sharing between and within the departments of the organization. Quality of information sharing within the entire supply chain.	Joseph, Rajendran & Kamalanabhan (1999); Gosian, Malhotra & El Sawy (2005); Kuei & Madu (2005); Foster & Ogden (2007); Kuei, Madu & Lin (2008); Hsu, Chiu, Chen & Liu (2009); Chan & Chan (2010); Ou, Liu, Hung & Yen (2010); Datta & Christopher (2011); Wu, Zhai, Zhang & Xu (2011).
4	Supplier Relationship	Quality of supply of raw material; Long-term relationship; supplier development.	Joseph, Rajendran & Kamalanabhan (1999); Kanji & Wong (1999); Wong (2001); Romano (2002); Bandyopadhyay & Sprague (2003); Lee, Lee & Jeong (2003); Wong (2003); Wang, Du & Li (2004); Flynn & Flynn (2005); Gosian, Malhotra & El Sawy (2005); Kuei & Madu (2005); Foster & Ogden (2007); Lo, Yeung & Yeung (2007); Yang, Lin & Sheu (2007); Kuei, Madu & Lin (2008); Arauz, Matsuo & Suzuki (2009); Hsu, Chiu, Chen & Liu (2009); Kahnali & Taghavi (2010); Mandave & Khodke (2010); Ou, Liu, Hung & Yen (2010); Talib, Rahman & Qureshi (2010); Wu, Zhai, Zhang & Xu (2011).
5	Efficient Manufacturing practices	Product development and process management.	Joseph, Rajendran & Kamalanabhan (1999); Bandyopadhyay & Sprague (2003); Kuei & Madu (2005); Foster & Ogden (2007); Yang, Lin & Sheu (2007); Kuei, Madu & Lin (2008); Arauz, Matsuo & Suzuki (2009); Hsu, Tan, Kannan & Leong (2009); Kahnali & Taghavi (2010); Ou, Liu, Hung & Yen (2010).

Figure – 1
Conceptual Framework linking quality management practices to supply chain performance



Assessing the Comparative Efficiency of State universities in Sri Lanka -Using Data Envelopment Analysis

K.K.K. Dharmathilaka
kithdhar@yahoo.com
University of Kelaniya, Sri Lanka

Ariyaratna Jayamaha
jayamaha@kln.ac.lk
University of Kelaniya, Sri Lanka

Abstract

In Sri Lanka, currently fifteen state universities operate under the apex body of University Grants Commission (UGC) in Sri Lanka. Planning and coordination of university education, allocation of funds, maintenance of academic standards, and regulation of the administration of those universities are functioned by the UGC. However, it is a general concern that the many state universities do not function efficiently in terms of academically and financially during the past few years. The Government Auditor General also views that the expenditure allocated to the state universities during the past few years have not been utilized in appropriate manner. Conversely, reports of international organizations have revealed that the world ranking of Sri Lankan universities is moving favorably towards better position. These views are led to do a study to see the efficiency of state universities in Sri Lanka.

This study focuses on measuring efficiency of all state universities in Sri Lanka using Data Envelopment Analysis (DEA). DEA methodology provides facility to evaluate the efficiency by comparing the all units of the sample and by considering financial and non-financial factors. This study found that 72% of Sri Lankan universities is efficiently operated in terms of academic and financial factors during the period from 2007 to 2011, while 28% is inefficient. Findings of this study give more insights for policy makers and university administration to make necessary steps to use their inputs more effectively in future.

Key words: Data Envelopment Analysis (DEA); Efficiency; University;

INTRODUCTION

In Sri Lanka, currently fifteen state universities operate under the apex body of University Grants Commission (UGC) in Sri Lanka which was established under the Universities Act No. 16 of 1978. The functions of the UGC are planning and coordination of university education, allocation of funds to Universities, maintenance of academic standards, regulation of the administration of Universities and regulation of admission of students to Universities. All universities are allocated funds for operations from the Government budget annually. Therefore as fully government owned institutions all stakeholders including general public always concern about their operations.

However, it is a general concern that the many state universities in Sri Lanka do

not function efficiently in terms of academically and financially during the past few years. The Government Auditor General which audit and advise to control the Government Funds, also views that the expenditure allocated to the state universities during the past few years have not been utilized in proper manner. Therefore, measuring efficiency of universities in Sri Lanka is needed to review the performance and optimal utilization of financial and non-financial resources. Hence, the objective of the study is to measure efficiency of universities in Sri Lanka.

Efficiency of the Universities

Many researches have been conducted to measure the efficiency by considering non-financial and financial

factorsof universities during the last few decades all over the world. Findings of such researches have been more helped to formulate policy and to compare and contrast the results in order to amend any of such directives for better outcome (Afonso & St. Aubyn, 2006). However, many researches done in developed countries. Abbott & Doucouliagos(2003) done a research in Australia by taking the sample of Australian Universities, Agasisti & Dal Bianco(2006) done a research in Italia taking the sample of Italian universities. However, it is hardly to find such efficiency measure researches in developing countries (Ahn, Arnold, Charnes, & Cooper, 1989).

There has not been conducted any of such research for measuring the efficiency of universities in Sri Lanka (Aluede, 2012). Hence, the purpose of this study is to evaluate the overall efficiency of state Universities in Sri Lanka by using Data Envelopment Analysis (DEA) methodology. The DEA technique applied to measure efficiency of universities in many countries i.e. Australia, Nigeria and United Kingdom (Bernroider & Stix, 2006).

Application of DEA for efficiency of Universities

Data Envelopment Analysis (DEA) methodology has been successfully applied by many researchers to measure efficiency of state universities for many countries and many sector organisations such as banking, health service etc... Abbott & Doucouliagos (2008) done a study for Australian and New Zealand universities using DEA, Adler, Friedman, & Sinuany-Stern (2002) used DEA technique to ranking of universities. Agasisti & Dal Bianco (2006) applied DEA to measure efficiency for Italian university system. Ahn, Arnold, Charnes, & Cooper (1989) had done a study to measure efficiency for higher education instituons in Texas.

Agasisti & Salerno (2007) carried out a study for assessing cost efficiency of Italian universities. Avkiran (2001) carried out study for investigating technical and scale efficiencies of Australian universities through Data Envelopment Analysis. Further, Castano (2007) conducted study on Philippine State Universities and Colleges, Cyril Tomkins (1988) for Evaluating the Efficiency of UK University Departments of Accounting, Din (2005) for the efficiency analysis in a cross-university comparison, Fandel (2007) for German higher Education Institutions, Flegg, Allen, & Field, (2004) for measuring the efficiency of British universities, García & Palomares (2008) for evaluation of Spanish Universities, Glass, Mckillop, & Hyndman (1995b) for measuring efficiency of UK universities, Hanke & Leopoldseder (1998) for comparing the efficiency of Austrian universities, Iulianaa, Adela, Radu, & Razvan (2009) for improving organizational efficiency and effectiveness in a Romanian Higher Education Institution, Johnes & Johnes (1993) for measuring the research performance of UK Economics Departments, and Johnes & Yu (2006) for measuring the research performance of Chinese higher education institutions by using DEA technique.

Martin (2003) for performance assessment of the Zaragosa University Departments, Ng & Li (2000) for measuring the research performance of Chinese higher education institutions, Thanassoulis, Kortelainen, Johnes, & Johnes (2011) for cost and efficiency of higher education institutions in England, Tomkins & Green (1988) for evaluating the efficiency of UK university departments of accounting and Fenga, Lua & Bib (2003) for measurement of the efficiency of R&D management activities in universities.

Tomkins & Green (1988) carried out a study for UK university departments of accounting to measure efficiency of

departments using DEA and concluded that some of the universities in the UK are not efficient. Madden, Savage, & Kemp (1997) have done another study for economics departments at Australian universities applying the DEA to measure the efficiency of departments and found that 80% of the departments were efficient and the rest of the department are inefficient. This result is comparatively good as most of the departments perform well. Athanassopoulos & Shale (1997) assessed the comparative efficiency of higher education institutions in the UK by means of Data Envelopment Analysis and found that 91% of the higher education institutions in the UK comparatively efficient. They considered the financial factors and non-financial factors concluded that the universities monitor their cost structure and obtained review the progress periodically to introduce preventive measures of drawbacks.

Turner (1990) carried out a research on improved measures of manufacturing maintenance in a capital budgeting context: an application of Data Envelopment Analysis. The study found that capital budgeting of 67% organizations were efficient while 33% inefficient. Hanke & Leopoldsdorfer (1998) compared the efficiency of Austrian universities through a Data Envelopment Analysis application. Their study found that 92% of the Australian universities operated efficiently while 8% below the required level of efficiency. Kempkes & Pohl (2007) conducted a study on the efficiency of German Universities; some evidence from Non-Parametric and Parametric methods. The study revealed that in case of universities, non-parametric applications were more applicable to measure efficiency than the parametric measures. The reason for such finding was non-parametric measures can handle multiple inputs and multiple outputs at once to contrast and

compare among the universities in the sample.

Caballero, Galache, Gómez, Molina, & Torrico (2004) conducted a study to evaluate budgetary allocations and efficiency in the human resources policy of a university following multiple criteria. The study found that 74% of the universities were efficient and performed well and 26% operated inefficiently. Worthington & Lee (2008) have found through the study efficiency, technology and productivity change in Australian universities, 1998–2003 that 89% of Australian universities efficient while using high technology lead to productivity. Ramírez-Correa, Jesús, Peña-Vinces, & Alfaro-Pérez (2012) came with the study to evaluating the efficiency of the higher education system in emerging economies: Empirical evidences from Chilean universities. In this study, they found that the 67% of Chilean universities were efficient and the balance 33% inefficient. The above studies provide evidence that the DEA technique was successfully applied all over the World to measure efficiency of universities. Therefore, Data Envelopment Analysis methodology has been selected for this study to measure efficiency of state universities in Sri Lanka.

DATA ANALYSIS AND RESULTS

Table 1 presents the analysis by geographical location of universities in the sample district. All universities in Sri Lanka have been evaluated for this study. Fifteen universities are established in ten districts within the nine administrative provinces. These districts are Colombo, Matara, Kandy, Ratnapura, Badulla, Kurunegala, Anuradhapura, Batticaloa, Ampara and Jaffna. The highest number of universities of the sample is located in Colombo district. This figure is 40% of the sample. The second highest numbers of universities are located in nine districts. Each university in

Jaffna, Matara, Kandy, Ratnapura, Badulla, Batticaloa, Ampara, Kurunegala and Anuradhapura represents 6.6% of the sample.

As shown in the Table 2 specific size categories have been determined to size analyze the universities at the researcher's discretion. These size categories are employed in the analysis presented in sections. Broadly speaking, 33% of the sample is represented by large DMUs while medium and small DMUs represent 17% and 50% respectively (based on an average of all measurements).

Table 3 presents the efficiency of universities in the sample period. As explained previously, Data Envelopment Analysis (DEA) methodology is used to evaluate the efficiency of state Universities in Sri Lanka. DEA efficiency scores are estimated using 'DEA-solver software V6'. Different numbers of observations are used for each model in each year due to the availability of data.

Table 3 shows the summary of analysis of efficiency of scores 2007 to 2011. According to the results, overall efficiency of all DMUs in 2007 was 0.853. In 2008, efficiency of all DMUs was 0.936. Efficiency of all DMUs was 0.949 in 2009. The efficiency of all DMUs for the year 2010 was 0.887. In 2011, efficiency of all DMUs was 0.858.

Average scores of DMUs from 2007 to 2009 have increased 0.853, 0.936, and 0.949 respectively. This reflects that overall efficiency of universities in Sri Lanka have been increased during that three period. However, efficiency has been decreased from 2010 to 2011 by 0.887 to 0.858 respectively. These results are supported, as the number of efficient universities have also been increased from 10 to 12 up to 2009 and thereafter, it has decreased up to 9. Results of standard deviation have also

evidenced that above results. The highest number of efficient of DMUs was reported in 2008 and 2009, as that number increased up to 12. Average efficiency for those two years was 0.936 and 0.949 respectively and found that only three DMUs were inefficient in 2008 and 2009.

Figure 1 depicts mean scores of Universities from 2007 to 2011. The graph shows clearly fluctuation in the mean scores of universities. It clearly shows that efficiency has been increased up to 2009 and thereafter, mean score has declined, as the number of inefficient DMUs were increased. This reveals that number of efficient universities were reduced to 9, from 2009 to 2011.

Table 4 shows overall analysis of efficient of DMUs 2007-2011. Number of evaluated DMUs were 15. Out of them, majority 10, 12, 12, 11, and 9 were efficient in 2007, 2008, 2009, 2010, and 2011 respectively. In percentages, 67%, 80%, 80%, 73%, and 60% were efficient in 2007, 2008, 2009, 2010, and 2011 respectively, while 33%, 20%, 20%, 27% and 40% were inefficient. In general as a whole, 72% of universities were efficient, whereas 28% of inefficient in the period of 2007-2011.

Further analysis have been carried out to assess the efficiency of individual universities in Sri Lanka. It is revealed that University of Colombo, Peradeniya, Kelaniya, Sabaragamuwa, UvaWellassa, Visual and Performing Arts, and The Open University have been efficient over the five year period (2007-2011). These seven universities are efficiently operated continuously five year period. Sri Jayewardenepura, Moratuwa, Jaffna, Ruhuna, Eastern, South Eastern, Rajarata and Wayamba universities were not efficient during 2007-2011 period. University of Sri Jayewardenepura was efficient in 2008, 2009, 2010 and 2011 but inefficient in 2007. University of Moratuwa

and Ruhuna were efficient in 2007, 2008, 2009, and 2010 but inefficient in 2011. University of Jaffna was efficient only in 2008. It was inefficient rest of four periods. Eastern University was efficient only in 2011 but inefficient in 2007, 2008, 2009, and 2010. South Eastern University was efficient in 2008 and 2011. However, it was inefficient in 2007, 2009, and 2010. Rajarata University was efficient in 2008 and 2009 while inefficient in 2007, 2010 and 2011. Wayamba University was inefficient for five years from 2007 to 2011. The salient feature found that Wayamba University was the least efficient university in the sample.

CONCLUSION

Prime objective of this study is to measure the efficiency of Government universities in Sri Lanka using Data Envelopment Analysis (DEA). Overall efficiency measures have revealed that 72% of universities are efficient and 28% inefficient during the sample period of 2007-2011. According to the results, overall efficiency of all universities from 2007 to 2009 was gradually increased. However, efficiency of all universities in Sri Lanka was dropped down from 2009. The findings of this study could help to provide directions for improve the quality in the higher education in Sri Lanka which is one of the ways to enhance the efficiency of the Universities in the country and suggests avenues for a number of future studies.

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Table -1
The Geographical Location of Universities in the Sample

Province	District	No. of University	As a percentage of population
Western	Colombo	06	40.00
Southern	Matara	01	6.66
Central	Kandy	01	6.66
Sabaragamuwa	Ratnapura	01	6.66
Uva	Badulla	01	6.66
Wayamba	Kurunegala	01	6.66
North Central	Anuradhapura	01	6.66
Eastern	Batticaloa	01	6.66
	Ampara	01	6.66
North	Jaffna	01	6.66
Total		15	100

Table -2
Size of Universities

Size metrics	N	Large	Medium	Small	Scale
Number of students	15	5	3	7	Large; More than 2000 Medium; ≤ 1000 , ≤ 2000 Small; below 1000
Number of academic staff members	15	5	3	7	Large; More than 400 Medium; ≤ 200 , ≤ 400 Small; below 200
Income	15	5	1	9	Large; More than Rs.100,000,000 Medium; \leq Rs.50,000,000, \leq Rs.100,000,000 Small; below Rs.50,000,000
Expenditure	15	5	3	7	Large; More than Rs.1000 Million Medium; \leq Rs.500 Million, \leq Rs.1000 Million Small; below Rs.500 Million
Enrolment	15	5	3	7	Large; More than 8000 Medium; ≤ 5000 , ≤ 8000 Small; below 5000
Average	15	33%	17%	50%	

Table -3
Summary of Analysis Efficiency Scores 2007-2011

Key measures	Year				
	2007	2008	2009	2010	2011
Average of scores	0.853	0.936	0.949	0.887	0.858
No. of efficient DMUs	10	12	12	11	9
No. of inefficient DMUs	5	3	3	4	6
SD	0.238	0.134	0.125	0.203	0.206

DMU= University

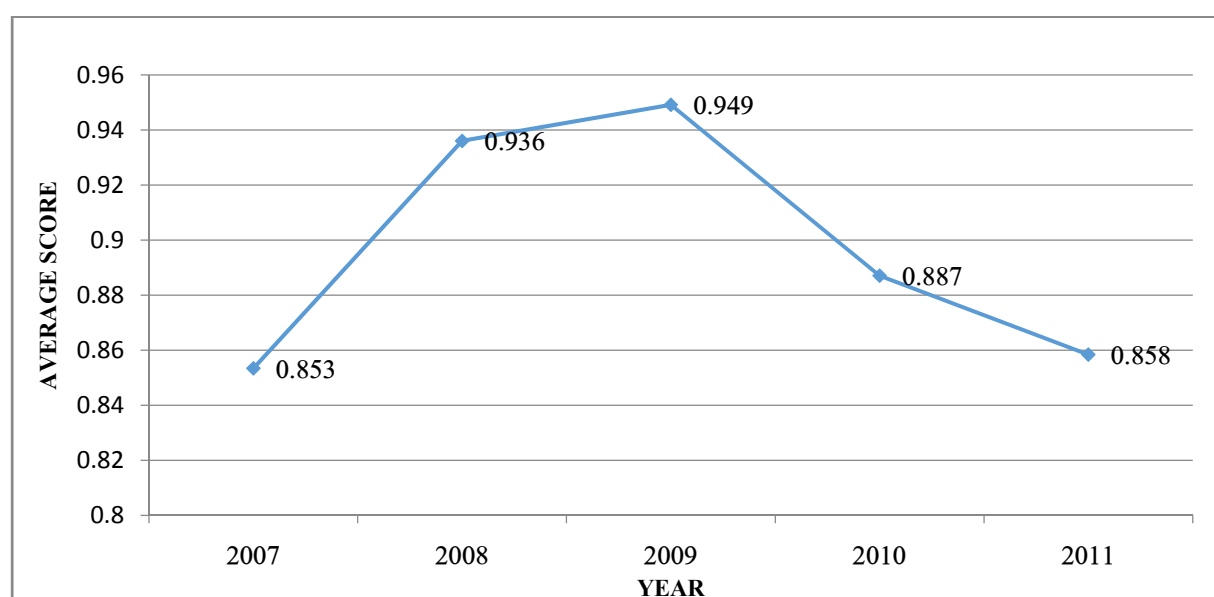
SD= Standard Deviation

Scores equal to 1.00 considered as Efficiency

Table - 4
Overall Analysis of Efficient of Universities 2007-2011

Overall analysis of efficient of DMUs 2007-2011					
Year	Evaluated	Efficient	%	Inefficiency	%
2007	15	10	67%	5	33%
2008	15	12	80%	3	20%
2009	15	12	80%	3	20%
2010	15	11	73%	4	27%
2011	15	9	60%	6	40%

Figure - 1
Mean Scores of Universities From 2007-2011



An Integrated Group Solution Strategy in Supply Chain Management

S. S. Appadoo
Department of Supply Chain,
Management,
University of Manitoba,
Winnipeg, Manitoba, Canada

A. Thavaneswaran
Department of Statistic,
University of Manitoba,
Winnipeg, Manitoba, Canada

Heather H. Kim
Department of Supply Chain
Management,
University of Manitoba,
Winnipeg, Manitoba, Canada

Jagbir Singh
Department of Statistic,
Temple University,
Philadelphia, United States

Abstract

In this paper, we propose a mixed possibilistic integrated group solution strategy to the fuzzy TOPSIS (Technique for Order Performance by Similarity to Ideal Solution) model using Renyi's entropy objective weight derived exclusively from the decision matrix and a group decision methodology to compute the subjective criteria weights. The integrated model considered in this paper is more flexible than those models available in the literature. An example in supply chain management is presented towards the end of the paper.

Keywords: Possibilistic, TOPSIS, Renyi's measure of entropy, Subjective criterion weights, Supply chain management
AMS subject classification: 62M10 (60F05, 60G52, 60K05)

INTRODUCTION

A great breakthrough in science was provided by Shannon's [14] paper in which he proposed

$$H = -k \sum_{i=1}^n p_i \ln p_i \text{ for arbitrary } k \quad (1.1)$$

as a measure of information or uncertainty associated with a probability distribution $(p_1, p_2, p_3, \dots, p_n)$, such that $p_i \geq 0$ and

$$\sum_{i=1}^n p_i = 1 \text{ for } i \text{ between } 1 \text{ and } n. \text{ The}$$

maximum value of H occurs when all the outcomes have an equal probability of occurring. This maximum value can be shown to be equal to $\ln n$. Jaynes [6] recognized the utility of this measure to deduce that the probability distribution which is consistent with the constraints description of what we know. Another advance was made by Kullback and Leibler [9] by introducing the concept of

the measure of nearness of two probability distributions. This concept provided in the form of Kullback-Leibler number

$$I(p : q) = - \sum_{i=1}^n p_i \ln \frac{p_i}{q_i} \quad (1.2)$$

was defined as directed divergence or divergence function between the priori distribution $q = (q_1, q_2, q_3, \dots, q_n)$ and the distribution $p = (p_1, p_2, p_3, \dots, p_n)$. The concept of entropy and directed divergence has had very important applications in a variety of fields like in Supply Chain Management (for reference see Kapur et al. ([7], [10])). Renyi [13] define entropy of order q for generalized (incomplete) probability distribution,

$$p = (p_1, p_2, p_3, \dots, p_n), \quad \sum_{i=1}^n p_i \leq 1 \text{ by the}$$

expression

$$H_q(p) = \frac{1}{1-q} \ln \left(\frac{\sum_{i=1}^n p_i^q}{\sum_{i=1}^n p_i} \right) \quad (1.3)$$

If, however, n is finite then Renyi entropies are bounded both from below and from above by the relation $\max \ln(p_i) < H_q(p) < \ln n$. Renyi entropies are monotonically decreasing functions in q , so namely

$$H_{(q=1)}(p) < H_{(q=2)}(p) \text{ if and only if } q_1 > q_2.$$

Renyi's [13] measure of entropy is more general than Shannon's measure of entropy, depending as it does on a positive parameter q . As such, it represents a family of measures which includes Shannon's measure of entropy as a limiting case as $q \rightarrow 1$. Renyi's [13] measure of entropy gives a family of optimizing probability distributions for different values of the parameter q . The value of the parameter q is related to the peakness of the optimizing density, [7]. Another advantage of Renyi's [13] measure of entropy is that it is applicable even when $\sum_{i=1}^n p_i \leq 1$, whereas Shannon's

measure is applicable only when $\sum_{i=1}^n p_i = 1$.

All this provides us motivation to consider the Technique for order performance by similarity to ideal solution (TOPSIS) model with criteria weight derived from Renyi's measure of entropy [13]. It is, therefore, measure of entropy (1.3) is used in place of Shannon's measure of entropy given by (1.1). Many results of previous TOPSIS models should automatically follow as particular cases as q in (1.3), approaches unity. Recently, there has been growing interest in using fuzzy algebra in decision making process. Fuzzy TOPSIS has been addressed extensively in the literature (for

examples see [3], [4], and the references therein).

This paper is divided into four sections. Section 1 gives an introduction to Renyi entropy and the TOPSIS model. Preliminaries and notations are also given in Section 1. Section 2 deals with possibility theory and the TOPSIS methodology. Section 3 deals with subjective criteria weights, objective criteria weights, and the integrated possibilistic weights. In Section 4, an example in supply chain management is given. The paper concludes in Section 5 along with some recommendations for future work and possible extension.

Preliminaries and Notation

These basic definitions and notations below will be used throughout the paper. Most of these related definitions and properties may be found in references ([1], [8], [16]).

Definition 1

Fuzzy set A in $X \subset \mathfrak{R}$, the set of real numbers, is a set of ordered pairs $A = \{(x, \mu(x)) : x \in X\}$, where $\mu(x)$ is the membership function or grade of membership, or degree of compatibility or degree of truth of $x \in X$ which maps $x \in X$ on the real interval $[0, 1]$.

Definition 2

If $\sup \mu(s) = 1, x \in \mathfrak{R}$, then the fuzzy set A is called a normal fuzzy set in \mathfrak{R} .

Definition 3

The crisp set of elements that belong to the fuzzy set A at least to the degree α is called the α -level set (or α -cut), i.e.

$A(\alpha) = \{x \in X \mid \mu(x) \geq \alpha, \alpha \in \mathfrak{R}^+\}$. If the set $A'(\alpha) = \{x \in X \mid \mu(x) > \alpha, \alpha \in \mathfrak{R}^+\}$,

then $A'(\alpha)$ is called strong α -level set (or strong α - cut).

Definition 4

A fuzzy set A is said to be a convex set if $\mu(\lambda x_1 + (1-\lambda)x_2) \geq \min(\mu(x_1), \mu(x_2))$, $x_1, x_2 \in X$ and $\lambda \in [0,1]$. Alternatively, a fuzzy set A is convex if its every α - level sets is convex set.

Definition 5

A fuzzy set A , which is both convex and normal, is defined to be a fuzzy number on the universal set \mathfrak{R} .

Definition 6

A fuzzy number $A = [a_1, a_2, a_3, a_4]_{O(m,n)}$, $a_1 < a_2 < a_3 < a_4$ is said to be $O(m,n)$ - Trapezoidal Type Fuzzy Number ($O(m,n)$ - Tr. F. N.) if its membership function is given as

$$\mu(x) = \begin{cases} 0 & , x \leq a_1 \\ 1 - \left(\frac{a_2 - x}{a_2 - a_1} \right)^m & , a_1 \leq x \leq a_2 \\ 1 & , a_2 \leq x \leq a_3 \\ 1 - \left(\frac{a_3 - x}{a_3 - a_4} \right)^n & , a_3 \leq x \leq a_4 \\ 0 & , x \geq a_4 \end{cases} \quad (1.4)$$

Alternatively, following Kaufmann and Gupta ([8], p 26, 27), defining the α - cut (interval of confidence at level - α) as, $A(\alpha) = [a_1(\alpha), a_2(\alpha)]$, we characterize $O(m,n)$ - Tr. F. N. $[a_1, a_2, a_3, a_4]_{O(m,n)}$ as

$$A(\alpha) = \left[a_2 - (a_2 - a_1)(1-\alpha)^{\frac{1}{m}}, a_3 - (a_3 - a_4)(1-\alpha)^{\frac{1}{n}} \right], \forall \alpha \in (0,1] \quad (1.5)$$

by setting $1 - \left(\frac{a_2 - x}{a_2 - a_1} \right)^m = \alpha$ and

$$1 - \left(\frac{a_3 - x}{a_3 - a_4} \right)^n = \alpha, \text{ respectively. Tr. F. N.}$$

and T. F. N. follows as special cases.

Definition 7

A linguistic variable is a variable whose values are linguistic terms [15]. The concept of linguistic variable is very useful in dealing with situations which are too complex or ill-defined to be reasonably described by conventional quantitative expressions [15]. In this paper, we adopt from Li [11], the fuzzy weights and fuzzy ratings, given in Table 1 and Table 2.

Definition 8

Suppose

A_1, A_2, \dots, A_m are possible alternatives among which decision makers have to choose, C_1, C_2, \dots, C_n are criteria against which alternative performances are measured,

a vector W is given by $W = [w_1, w_2, \dots, w_m]$, and

an $n \times m$ matrix D is given by

$$D = \begin{matrix} & \begin{matrix} C_1 & C_2 & \dots & C_m \end{matrix} \\ \begin{matrix} A_1 \\ A_2 \\ \vdots \\ A_n \end{matrix} & \begin{pmatrix} x_{11} & x_{12} & \dots & x_{1m} \\ x_{21} & x_{22} & \dots & x_{2m} \\ \vdots & \vdots & \ddots & \vdots \\ x_{n1} & x_{n2} & \dots & x_{nm} \end{pmatrix} \end{matrix} \quad (1.6)$$

Then, D (or W) is called a fuzzy matrix (or a fuzzy vector, respectively), if at least one entry in D (or W) is a fuzzy

number. Some or all x_{ij} and w_j , $i=1,2,\dots,n$ and $j=1,2,\dots,m$ in (1.6) can be described by fuzzy numbers.

Possibility Theory and Moment Properties of Fuzzy Numbers

In the next section, we discuss on the line of Carlsson and Fuller [2] possibilistic mean of fuzzy numbers. The family of fuzzy numbers will be denoted by \mathfrak{F} . For any $A \in \mathfrak{F}$, we shall use the notation $A(\alpha) = [a_1(\alpha), a_2(\alpha)]$ for α -level sets of A .

It may be pointed out here that to derive the possibilistic mean, we implicitly use the following results:

$$\text{Possibility}[A \leq a_1(\alpha)] = \pi(-\infty, a_1(\alpha)] = \sup_{u \leq a_1(\alpha)} A(u) = \alpha \quad (1.7)$$

$$\text{Possibility}[A \geq a_2(\alpha)] = \pi[a_2(\alpha), \infty) = \sup_{u \geq a_2(\alpha)} A(u) = \alpha \quad (1.8)$$

$E(A)$ is the level-weighted average of the arithmetic means of all α -level sets and is given by

$$E(A) = \int_0^1 \alpha (a_1(\alpha) + a_2(\alpha)) d\alpha \quad (1.9)$$

The possibilistic mean of an $O(m, n)$ -Tr. F. N. is given below

$$E(A) = \frac{a_2 + a_3}{2} - \frac{m^2(a_2 - a_1)}{(1+m)(1+2m)} - \frac{n^2(a_3 - a_4)}{(n+1)(2n+1)} \quad (1.10)$$

Modified Crisp TOPSIS Methodology

In this paper, we adopt modified TOPSIS model formulation of Deng et al. [11]. A TOPSIS model can be expressed in matrix format, in which columns indicate attributes and rows list the competing alternatives. Suppose a MCDM problem

has n alternatives, A_1, \dots, A_n , and m decision criteria, C_1, \dots, C_m . Each alternative is evaluated with respect to the m criteria. All the ratings assigned to the alternatives with respect to each criterion form a decision matrix denoted by $X = (x_{ij})_{n \times m}$. Let $W = (w_1, \dots, w_m)$ be the relative weight vector about the criteria, satisfying $\sum_{j=1}^m w_j = 1$. Then, the TOPSIS method can be summarized as follows:

(STEP 1)

Normalize (Deng et al. [11]) the decision matrix $X = (x_{ij})_{n \times m}$ using the equation below:

$$r_{ij} = \frac{x_{ij}}{\sum_{i=1}^n x_{ij}}, \quad i = 1, 2, \dots, n, \quad j = 1, 2, \dots, m \quad (1.11)$$

where r_{ij} is the normalized rating.

As a consequence, a normalized decision matrix representing the relative performance of the alternatives is obtained as

$$D = \begin{bmatrix} \frac{x_{11}}{\sum_{i=1}^n x_{i1}} & \frac{x_{12}}{\sum_{i=1}^n x_{i2}} & \dots & \frac{x_{1m}}{\sum_{i=1}^n x_{im}} \\ \frac{x_{21}}{\sum_{i=1}^n x_{i1}} & \frac{x_{22}}{\sum_{i=1}^n x_{i2}} & \dots & \frac{x_{2m}}{\sum_{i=1}^n x_{im}} \\ \vdots & \vdots & \ddots & \vdots \\ \frac{x_{n1}}{\sum_{i=1}^n x_{i1}} & \frac{x_{n2}}{\sum_{i=1}^n x_{i2}} & \dots & \frac{x_{nm}}{\sum_{i=1}^n x_{im}} \end{bmatrix} = \begin{bmatrix} r_{11} & r_{12} & \dots & r_{1m} \\ r_{21} & r_{22} & \dots & r_{2m} \\ \vdots & \vdots & \ddots & \vdots \\ r_{n1} & r_{n2} & \dots & r_{nm} \end{bmatrix} \quad (1.12)$$

(STEP 2)

Determine the ideal and negative-ideal solutions.

$$A^+ = \{v_1^+, \dots, v_m^+\} = \left\{ \left(\max_j r_{ij} \mid j \in \Omega_b \right) \right\} \quad (1.13)$$

$$A^- = \{v_1^-, \dots, v_m^-\} = \left\{ \left(\min_j r_{ij} \mid j \in \Omega_b \right) \right\} \quad (1.14)$$

where Ω_b is the sets of benefit criteria (Deng et al. [11]).

(STEP 3)

Calculate the weighted Euclidean distances of each alternative from the ideal solution and the negative-ideal solution, respectively (Deng et al. [11]).

$$D_i^+ = \sqrt{\sum_{j=1}^m w_j (r_{ij} - v_j^+)^2}, \quad i = 1, 2, \dots, n \quad (1.15)$$

$$D_i^- = \sqrt{\sum_{j=1}^m w_j (r_{ij} - v_j^-)^2}, \quad i = 1, 2, \dots, n \quad (1.16)$$

(STEP 4)

Calculate the relative closeness of each alternative to the ideal solution. The relative closeness of the alternative A_i with respect to A^+ is defined as

$$RC_i = \frac{\sqrt{\sum_{j=1}^m w_j (r_{ij} - v_j^-)^2}}{\sqrt{\sum_{j=1}^m w_j (r_{ij} - v_j^-)^2} + \sqrt{\sum_{j=1}^m w_j (r_{ij} - v_j^+)^2}}, \quad i = 1, 2, \dots, n \quad (1.17)$$

(STEP 5)

Once RC_i is computed, it is easy to observe that, in general, RC_i lies between 0 and 1. However, if $D_i^- = 0$ then $RC_i = 0$, and if $D_i^+ = 0$ then $RC_i = 1$. Alternatively, we can say that as

$D_i^+ \rightarrow 0, RC_i \rightarrow 1$, and as $D_i^- \rightarrow 0, RC_i \rightarrow 0$. Thus, in this case we rank the alternatives A_i according to their relative closeness to the ideal solution A^+ . The higher the value of RC_i , closer the alternative A_i to A^+ . The best alternative among the alternatives A_i is the one with the greatest relative closeness to the ideal solution A^+ .

Weight Methodology in MCDM

There are mainly two classes of weighting methods namely, the subjective weighting methods and the objective weighting methods. User-defined subjective attribute weights incorporate decision maker's knowledge into the final decision. In order to combine the desired properties of the two methods, this uses an integrated weighting strategy.

In the section below, we describe the possibilistic Renyi's entropy Weight methodology, which we are going to use in the paper.

Possibilistic Renyi's Entropy Weight Methodology

Entropy can be used to quantitatively estimate objectively the relative weight of information. If an attribute has the same value for each of the alternatives, then that attribute provides no information that distinguishes the alternatives. An attribute that has different values for each alternative has a high information content and is useful when comparing and contrasting the alternatives. The greater the value of entropy, the smaller the entropy weight and the less important this attribute becomes in the decision making process. The process to calculate entropy weight is as follows.

Let the fuzzy decision matrix D of n alternatives, A_i , $i=1,2,\dots,n$ and m attributes (criteria), C_j , $j=1,2,\dots,m$ be as follows:

$$D = \begin{matrix} & C_1 & C_2 & \dots & C_m \\ \begin{matrix} A_1 \\ A_2 \\ \vdots \\ A_n \end{matrix} & \begin{pmatrix} x_{11} & x_{12} & \dots & x_{1m} \\ x_{21} & x_{22} & \dots & x_{2m} \\ \vdots & \vdots & \vdots & \vdots \\ x_{n1} & x_{n2} & \dots & x_{nm} \end{pmatrix} \end{matrix} \quad (2.1)$$

where $x_{ij} = [x_{ij1}(\alpha), x_{ij2}(\alpha)]$,

$\forall 0 \leq \alpha \leq 1$, $i=1,2,\dots,n$ and $j=1,2,\dots,m$.

The normalized rating for attribute j , r_{ij} can then be defined as

$$r_{ij} = \frac{\int_0^1 \alpha (x_{ij1}(\alpha) + x_{ij2}(\alpha)) d\alpha}{\sum_{i=1}^n \left(\int_0^1 \alpha (x_{ij1}(\alpha) + x_{ij2}(\alpha)) d\alpha \right)}, \quad \forall i=1,2,\dots,n, \quad j=1,2,\dots,m \quad (2.2)$$

The entropy $E_j^q(r)$ of attribute j is

$$E_j^q(r) = \left(\frac{1}{\ln n} \right) \frac{1}{1-q} \ln \left(\frac{\sum_{i=1}^n \left(\frac{\int_0^1 \alpha (x_{ij1}(\alpha) + x_{ij2}(\alpha)) d\alpha}{\sum_{i=1}^n \left(\int_0^1 \alpha (x_{ij1}(\alpha) + x_{ij2}(\alpha)) d\alpha \right)} \right)^q}{\sum_{i=1}^n \left(\frac{\int_0^1 \alpha (x_{ij1}(\alpha) + x_{ij2}(\alpha)) d\alpha}{\sum_{i=1}^n \left(\int_0^1 \alpha (x_{ij1}(\alpha) + x_{ij2}(\alpha)) d\alpha \right)} \right)} \right) \quad (2.3)$$

where $\frac{1}{\ln n}$ is a positive constant, which guarantees that $0 \leq E_j^q(r) \leq 1$. It is noted that the larger the $E_j^q(r)$ value, the less information is contained in r_1, r_2, \dots, r_n and that 0 entropy means maximum information and 1 minimum entropy. The entropy values range between $0 \leq E_j^q(r) \leq 1$, and n indicates the

number of decision alternatives. The degree of diversification d_j of the information provided by the outcomes of attribute j is defined as in Deng et al. [11],

$$d_j = 1 - E_j^q(r), \quad \forall j=1,2,\dots,m \quad (2.4)$$

The optimum weight is given by Deng et al. [11] as

$$W_j = \frac{1 - E_j^q(r)}{\sum_{j=1}^m (1 - E_j^q(r))} = \frac{1 - \left(\frac{1}{\ln n} \right) \frac{1}{1-q} \ln \left(\frac{\sum_{i=1}^n \left(\frac{\int_0^1 \alpha (x_{ij1}(\alpha) + x_{ij2}(\alpha)) d\alpha}{\sum_{i=1}^n \left(\int_0^1 \alpha (x_{ij1}(\alpha) + x_{ij2}(\alpha)) d\alpha \right)} \right)^q}{\sum_{i=1}^n \left(\frac{\int_0^1 \alpha (x_{ij1}(\alpha) + x_{ij2}(\alpha)) d\alpha}{\sum_{i=1}^n \left(\int_0^1 \alpha (x_{ij1}(\alpha) + x_{ij2}(\alpha)) d\alpha \right)} \right)} \right)}{\sum_{j=1}^m \left(1 - \left(\frac{1}{\ln n} \right) \frac{1}{1-q} \ln \left(\frac{\sum_{i=1}^n \left(\frac{\int_0^1 \alpha (x_{ij1}(\alpha) + x_{ij2}(\alpha)) d\alpha}{\sum_{i=1}^n \left(\int_0^1 \alpha (x_{ij1}(\alpha) + x_{ij2}(\alpha)) d\alpha \right)} \right)^q}{\sum_{i=1}^n \left(\frac{\int_0^1 \alpha (x_{ij1}(\alpha) + x_{ij2}(\alpha)) d\alpha}{\sum_{i=1}^n \left(\int_0^1 \alpha (x_{ij1}(\alpha) + x_{ij2}(\alpha)) d\alpha \right)} \right)} \right)} \right)} \quad (2.5)$$

Possibilistic Subjective Criteria Weights Methodology

Let I_t , $t=1,2,\dots,u$ be the crisp weight of importance given to individual decision makers D_t . Let $W_j^S = (w_{1j}, w_{2j}, w_{3j}, w_{4j})$ be the fuzzy subjective linguistic weight given to criterion C_j , $j=1,2,\dots,m$, by decision makers D_t .

Below, we develop the decision maker subjective weights as follow. Let the fuzzy subjective weights be denoted by W_j^S , then

$$\begin{aligned}
 W_j^S &= \frac{I_1 W_{1j} + I_2 W_{2j} + I_3 W_{3j} + I_4 W_{4j} + \dots + I_u W_{uj}}{\sum_{t=1}^u I_t} \\
 &= \frac{\left(\sum_{t=1}^u I_t w_{1tj}, \sum_{t=1}^u I_t w_{2tj}, \sum_{t=1}^u I_t w_{3tj}, \sum_{t=1}^u I_t w_{4tj} \right)}{\sum_{t=1}^u I_t} \\
 &= \left[\frac{\sum_{t=1}^u I_t w_{1tj}}{\sum_{t=1}^u I_t}, \frac{\sum_{t=1}^u I_t w_{2tj}}{\sum_{t=1}^u I_t}, \frac{\sum_{t=1}^u I_t w_{3tj}}{\sum_{t=1}^u I_t}, \frac{\sum_{t=1}^u I_t w_{4tj}}{\sum_{t=1}^u I_t} \right], \quad j = 1, 2, \dots, m
 \end{aligned} \quad (2.6)$$

for $0 \leq \alpha \leq 1$, we have the following expressions for the α - cuts as

$W_j^S(\alpha) = [W_{1j}^S(\alpha), W_{2j}^S(\alpha)]$, where $W_{1j}^S(\alpha)$ and $W_{2j}^S(\alpha)$ are as follows:

$$W_{1j}^S(\alpha) = \frac{\sum_{t=1}^u I_t w_{1tj}}{\sum_{t=1}^u I_t} + \alpha \left(\frac{\sum_{t=1}^u I_t w_{2tj}}{\sum_{t=1}^u I_t} - \frac{\sum_{t=1}^u I_t w_{1tj}}{\sum_{t=1}^u I_t} \right) \quad (2.7)$$

$$W_{2j}^S(\alpha) = \frac{\sum_{t=1}^u I_t w_{4tj}}{\sum_{t=1}^u I_t} + \alpha \left(\frac{\sum_{t=1}^u I_t w_{3tj}}{\sum_{t=1}^u I_t} - \frac{\sum_{t=1}^u I_t w_{4tj}}{\sum_{t=1}^u I_t} \right) \quad (2.8)$$

Following Carlsson and Fuller [2], we compute an expression for the crisp possibilistic weight W_j^{Poss} as follows

$$W_j^{Poss} = \int_0^1 \alpha \left[\left(\frac{\sum_{t=1}^u I_t w_{1tj}}{\sum_{t=1}^u I_t} + \alpha \left(\frac{\sum_{t=1}^u I_t w_{2tj}}{\sum_{t=1}^u I_t} - \frac{\sum_{t=1}^u I_t w_{1tj}}{\sum_{t=1}^u I_t} \right) \right) \right. \\
 \left. + \frac{\sum_{t=1}^u I_t w_{4tj}}{\sum_{t=1}^u I_t} + \alpha \left(\frac{\sum_{t=1}^u I_t w_{3tj}}{\sum_{t=1}^u I_t} - \frac{\sum_{t=1}^u I_t w_{4tj}}{\sum_{t=1}^u I_t} \right) \right] d\alpha \quad (2.9)$$

and the crisp possibilistic subjective weight is given below:

$$= \frac{1}{3} \left(\frac{\sum_{t=1}^u I_t w_{2tj}}{\sum_{t=1}^u I_t} + \frac{\sum_{t=1}^u I_t w_{3tj}}{\sum_{t=1}^u I_t} \right) + \frac{1}{6} \left(\frac{\sum_{t=1}^u I_t w_{1tj}}{\sum_{t=1}^u I_t} + \frac{\sum_{t=1}^u I_t w_{4tj}}{\sum_{t=1}^u I_t} \right) \quad (2.10)$$

Alternatively, if we take

$I_1 = I_2 = I_3 = \dots = I_t = \frac{1}{K}$ in (3.10) then,

the importance of individual DMs opinions influence the outcome of decision-making as follows:

$$\begin{aligned}
 W_j^{Poss} &= \frac{1}{3} \left(\frac{\sum_{t=1}^u \frac{1}{K} w_{2tj}}{\sum_{t=1}^u \frac{1}{K}} + \frac{\sum_{t=1}^u \frac{1}{K} w_{3tj}}{\sum_{t=1}^u \frac{1}{K}} \right) + \frac{1}{6} \left(\frac{\sum_{t=1}^u \frac{1}{K} w_{1tj}}{\sum_{t=1}^u \frac{1}{K}} + \frac{\sum_{t=1}^u \frac{1}{K} w_{4tj}}{\sum_{t=1}^u \frac{1}{K}} \right) \\
 &= \frac{1}{3} \left(\frac{\frac{1}{K} \sum_{t=1}^u w_{2tj}}{\frac{u}{K}} + \frac{\frac{1}{K} \sum_{t=1}^u w_{3tj}}{\frac{u}{K}} \right) + \frac{1}{6} \left(\frac{\frac{1}{K} \sum_{t=1}^u w_{1tj}}{\frac{u}{K}} + \frac{\frac{1}{K} \sum_{t=1}^u w_{4tj}}{\frac{u}{K}} \right) \\
 &= \frac{1}{u} \left(\frac{1}{3} \left(\sum_{t=1}^u w_{2tj} + \sum_{t=1}^u w_{3tj} \right) + \frac{1}{6} \left(\sum_{t=1}^u w_{1tj} + \sum_{t=1}^u w_{4tj} \right) \right) \quad (2.11)
 \end{aligned}$$

Integrated Subjective and Objective Weights

By combining the objective weights W_j obtained from the entropy approach and the subjective weights W_j^{Poss} , the integrated weight W_j^* of the j th criterion is defined as

$$W_j^* = \frac{(W_j)(W_j^{Poss})}{\sum_{j=1}^m (W_j)(W_j^{Poss})}, \quad j = 1, 2, \dots, m \quad (2.12)$$

It may be remarked here that for $j = 1, 2, \dots, m$, W_j and W_j^{Poss} can also be used individually or they can be combined together to form an integrated weight vector W_j^* .

An Application to the Supplier Selection Model in a Supply Chain Management

In this section, we provide an application of the integrated group fuzzy

possibilistic TOPSIS model to the supplier selection problem. Note that the choice of the right supplier is a crucial decision with wide ranging implications within a supply chain. Better performing suppliers improve performance and reduce lead time at different stages of the supply chain.

Example 1 *In this example, we illustrate the supplier selection process through group decision. Management appoints a committee responsible for selecting the best supplier(s) for the company. After comprehensive discussion, all the selection criteria for the supplier are identified accordingly. After the compromised mechanism of the committee on the discussion, the importance weights of individual decision makers*

I_i ,
($I_1 = 1.0, I_2 = 3.0, I_3 = 1.0, I_4 = 2.0, I_5 = 2.0$),
are assigned. Then linguistic weighting variables and their respective fuzzy numbers are used by the decision makers to assess the importance weights.

We explicitly used expression (3.10) in calculating W_j^{Poss} in Table 3. Table 4 lists the profile of the ten suppliers in a fuzzy setup.

Where S_i stands for suppliers i , $i = 1, 2, \dots, 10$. Then, Table 4 gives the scores of each alternative against each criterion. Table 5 gives us values of the integrated weights using expression (3.12). Three preference orders based on the positive ideal solution, negative ideal solution and TOPSIS relative closeness RC_i are calculated. Supplier S_4 are ranked first by D^+ , D^- and by RC_i for small values of q . This observation is quite different for large value of q . S_4 top the ranking, thus the committee should identify S_4 as the best supplier. As

pointed out earlier, negotiations for a group decision making process may involve several iterations. It rarely happens in any company that a consensus decision can be achieved in only one meeting. The final decision is made after several compromises with participants' individual opinions. Thus, we can keep on changing values of q until we are satisfied with the supplier selection.

CONCLUSION

In this paper, we develop a group possibilistic TOPSIS model. The methodology proposed in this paper may also be applicable for other MCDM models. The evidence in favor of our proposed method highlights the advantage over the original crisp version of the TOPSIS model formulation.

It does not require the use of fuzzy number ranking methods, which may yield different results depending on the ranking method selected.

It does not require cumbersome computations, but has clear interpretation and can be easily implemented using any commercial spreadsheet program, and

The relative closeness RC_i provided by this approach reflects all possible solutions to the fuzzy TOPSIS model. The usual fuzzy TOPSIS formulation use only the core and support of a fuzzy number.

While Shannon's measure gives only one optimizing probability distribution whereas Renyi's [13] measure of entropy gives a family of optimizing probability distributions for different values of the parameter q , thus, increase flexibility in treating a variety of weights vector. Another advantage of Renyi's [13]

measure of entropy is that it is applicable even when $\sum_{i=1}^n p_i \leq 1$, whereas Shannon's

measure is only applicable when $\sum_{i=1}^n p_i = 1$.

This property is extremely useful in handling missing observations. In addition, extension of the proposed model to weighted possibilistic moments will be a focus of our future work. The proposed possibilistic approach to fuzzy TOPSIS does not imply rejection of other fuzzy MCDM formulation, but rather it compliments existing fuzzy TOPSIS and formulation.

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APPENDIX

Table 1

On a scale of [0,1] fuzzy weights for linguistic variables

Linguistic Variables	Weights
Extremely Low (EL)	(0, 0, 0.1, 0.2)
Very Low (VL)	(0.1, 0.2, 0.3, 0.4)
Low (L)	(0.2, 0.3, 0.4, 0.5)
Medium Low (ML)	(0.3, 0.4, 0.5, 0.6)
Median (M)	(0.4, 0.5, 0.6, 0.7)
Median High (MH)	(0.5, 0.6, 0.7, 0.8)
High (H)	(0.6, 0.7, 0.8, 0.9)
Very High (VH)	(0.7, 0.8, 0.9, 1.0)
Extremely High (EH)	(0.8, 0.9, 1.0, 1.0)

Table - 2

On a scale of [0, 10] fuzzy ratings for linguistic variables

Linguistic Variables	Ratings
Extremely Poor (EP)	(0, 0, 1, 2)
Very Poor (VP)	(1, 2, 3, 4)
Poor (P)	(2, 3, 4, 5)
Median Poor (MP)	(3, 4, 5, 6)
Fair (F)	(4, 5, 6, 7)
Median Good (MG)	(5, 6, 7, 8)
Good (G)	(6, 7, 8, 9)
Very Good (VG)	(7, 8, 9, 10)
Extremely Good (EG)	(8, 9, 10, 10)

Table - 3

The Linguistic and Aggregated Importance Weights of the Criteria

Criteria	D_1	D_2	D_3	D_4	D_5	Fuzzy	W_j^{Poss}
C_1	VH	M	MH	ML	H	(0.466666,0.566666,0.666666,0.766666)	0.6166665
C_2	H	H	EH	VH	VH	(0.666666,0.766666,0.866666,0.955555)	0.8148147
C_3	M	MH	EH	ML	VH	(0.522222,0.622222,0.7222,0.81111)	0.6703702
C_4	VH	H	ML	VH	H	(0.6000,0.7000,0.8000,0.9000)	0.75
C_5	VH	ML	M	VH	H	(0.5111,0.611111,0.7111,0.81115)	0.66111

Table - 4

Profiles of the ten suppliers in a Fuzzy Setup

S_i	Flexibility (F)	Delivery (D)	Quality	Suppliers Technology (T)	Suppliers Profile (P)
S_1	5.25	(100,102,104,106) _(3,2)	(0.85,0.87,0.89,0.92) _(2,2)	(0.85,0.87,0.90,0.96)	(0.59,0.68,0.73,0.76) _(3,5)
S_2	5.35	(95,100,102,103) _(2,0.5)	0.92	(0.84,0.85,0.87,0.89) _(7,5)	(0.59,0.68,0.73,0.76) _(4,5)
S_3	5.22	(100,102,104,106) _(3,2)	(0.90,0.92,0.95,0.98)	(0.85,0.86,0.89,0.92) _(4,2)	(0.59,0.68,0.73,0.76) _(2,6)
S_4	5.18	(92,95,98,100) _(4,2)	(0.90,0.92,0.93,0.95)	(0.80,0.81,0.85,0.87)	(0.69,0.78,0.79,0.88) _(3,8)
S_5	5.28	(88,90,95,100) _(5,2)	(0.87,0.88,0.92,0.96) _(0.5,3)	0.85	(0.62,0.68,0.73,0.78) _(5,6)
S_6	6.50	(90,94,95,96) _(6,2)	(0.59,0.68,0.73,0.76) _(2.5,3)	(0.80,0.81,0.85,0.87)	(0.65,0.68,0.75,0.78) _(3,6)
S_7	4.80	(100,112,114,116) _(5,3)	(0.59,0.68,0.78,0.85) _(6,7)	(0.84,0.85,0.86,0.87)	(0.78,0.88,0.89,0.99) _(3,4)
S_8	5.50	(111,112,114,115) _(3,4)	(0.56,0.68,0.75,0.78) _(3,4)	(0.82,0.83,0.85,0.87)	(0.45,0.68,0.78,0.82) _(3,8)
S_9	5.60	(100,102,106,108) _(4,2)	(0.62,0.68,0.73,0.79) _(3,5)	(0.86,0.88,0.89,0.92)	(0.56,0.66,0.74,0.76) _(5,1)
S_{10}	5.80	(101,105,107,109) _(6,1)	(0.59,0.68,0.78,0.788) _(5,3)	(0.82,0.87,0.89,0.94)	(0.52,0.68,0.71,0.75) _(6,2)

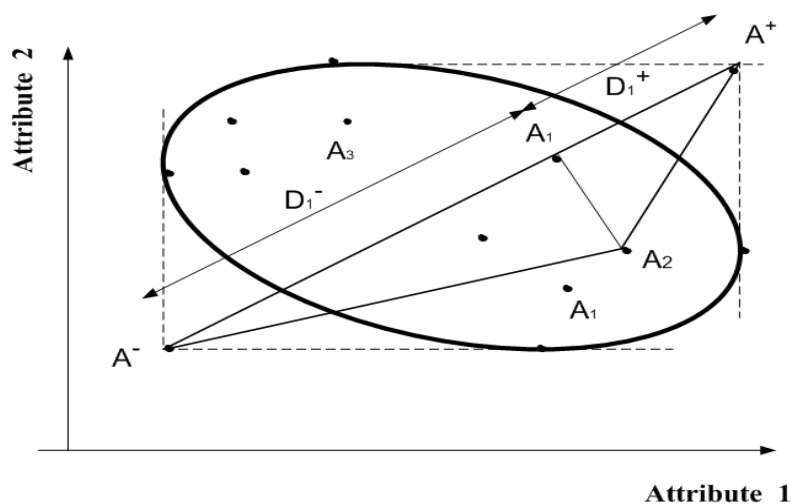
Table - 5

Integrated Subjective and Objective Weights

q	W_1^*	W_2^*	W_3^*	W_4^*	W_5^*
0.05	0.14845	0.11996	0.48453	0.01840	0.22866
$q \rightarrow 1$	0.15021	0.11880	0.47729	0.01822	0.23547
0.9	0.15001	0.11891	0.47811	0.01824	0.23473
1.08	0.15038	0.11872	0.47663	0.01821	0.23607
0.5	0.14923	0.11938	0.48126	0.01831	0.23181
2	0.15248	0.11783	0.46839	0.01807	0.24323
5	0.16139	0.11620	0.43571	0.01787	0.26882
10	0.18019	0.11644	0.37630	0.01811	0.30896
20	0.21419	0.12390	0.29753	0.02006	0.34432
100	0.24232	0.16995	0.22101	0.03746	0.32926

Figure - 1

Euclidean Distances to Positive-Ideal and Negative-Ideal Solutions in Two Dimensional Space. Source: Hwang and Yoon (1981)



The Influence of Ethics at Work Place: A Study at Infrastructure University Kuala Lumpur, Malaysia

Asokan Vasudevan

Faculty of Business and Accounting,
Infrastructure University Kuala Lumpur, Selangor, Malaysia
Email: asokan@iukl.edu.my

Dr. Ibrahim Zahari

Graduate Business School, Universiti Tenaga Nasional
(UNITEN), Malaysia
Email: Malaysia. ibrahimz@uniten.edu.my

Abstract

The ethics at workplace has become problem for the academicians in recent years. This has emerged as a new phenomenon that needs further search to understand the critical issues that has been ignored in the past. Ethics is something that deals with what is right and what is wrong. The essential concept of ethics is how a civilized human should conduct everyday dealings when interacting with people around them. Ethics differ from acts that affect the individuals to acts that effect the organizations or the community as a whole. Ethics at the workplace may build up as a result of internal or external causes. Personality characteristics, social and interpersonal factors, and organizational factors are considered as the dominant factors in causing ethical behavior or unethical behavior at workplace. The aim of this study is to evaluate the effects of the key independent variables; organizational factors, social and interpersonal factors, and personality characteristics factors on the dependent variable ethics at the workplace. The results of conducting the statistical result of correlation analysis and liner regression analysis, among all independent variables which are organizational factors, social and interpersonal factors, and personality characteristics factors with the dependent variable which is ethics at the workplace, a result was one of the research hypothesis will be accepted and two hypotheses will be rejected. SPSS Statistics 20 was the most important tool in analyzing the data that will be collected after distributing the questionnaires. There was a lack of available and reliable information from the data collected, since the topic about ethics at the workplace it's a quiet sensitive topic, respondents does not tell the correct behavior and attitudes.

INTRODUCTION

Ethics at the workplace is one of the prevalent issues in most working environments both in public or private companies and in any ventures. Regardless the size of the business and from politics to government, business to academia, ethics has become one of the most important topics. Therefore, it is becoming customary to concern about ethics at workplace, in today's society. Ethics at the workplace might be ethical behavior or unethical/toxic behavior. In consequence of unethical behavior; the series of big scandals in many countries have been sensational news around the world. The collapse of Enron and the ethical vacuum that seemed to have

triggered, it was all the more shaking and unexpected because Enron has long projected the appearance of an ethical corporation (Lease, 2006). Established companies for example, WorldCom, Tyco, and HealthSouth with good corporate governance also to a large extent suffer from the toxic behavior done by the employees and corporate leaders. Alternatively, good ethical behavior leads to job satisfaction and increasing the corporate image and reputation of the company. Now more than ever, companies or organization must rely on a solid foundation of ethics if they are to succeed and keep eminence employees. Nevertheless, all unethical and ethical acts or behaviors do not have the same degree

of impact on individuals or organizations, while some unethical acts have far-reaching consequences and implications, others are relatively minor, but they still consider as unethical behavior (Michael Chung, 2008).

Although this study is all about ethics at the workplace, but alternatively, knowing the business ethics gives better understanding to ethical behavior and toxic behavior. Business ethics is a form of applied ethics taught moral principles and ethical problems or literary arise in a business environment (DeGeorge, 2013). It relates to all aspects of business management relevant to the conduct of individuals and business organizations as a whole. Applied ethics is in the area of ethics deals with ethical issues in many areas such as medical, technical, legal and business ethics. Business ethics could be standard under discipline and descriptive (DeGeorge, 2013). And reflects the extent of business ethics estimated the degree to which they consider the business to non-economic social values. Over all, the attention to the manners of business operate in both large organizations and academia increased. In the present day most big corporations make sure its obligation to strengthening the non-economic social values under a variety of titles. In some cases, companies re-defined the key values in the light of ethical considerations.

PROBLEM STATEMENT

Ethics at the workplace may accrue as a result of internal or external causes. Personality characteristics, social and interpersonal factors, and organizational factors are conceded as the dominant factors that affect ethics at workplace. The reasons of ethics at workplace can be traced to many individual, sociological, organizational, and economic causes.

RESEARCH OBJECTIVES

The purpose of this study is to evaluate the effects of the key independent variables of the study on the dependent variable of the study:

To examine the relationship between personality characteristics and ethics of officers at educational setting.

To examine the relationship between social and interpersonal factors and ethics of officers at educational setting.

To examine the relationship between organizational factors and ethics of officers at educational setting.

RESEARCH QUESTIONS

Based on the gap in the literature, and the problem statement discussed in section 1.2 this study has developed the following questions which will assist the research.

The following are the research questions:

What is the relationship between personality characteristics and ethics at the workplace?

What is the relationship between social and interpersonal factors and ethics at the workplace?

What is the relationship between organizational factors and ethics at the workplace?

LITERATURE REVIEW

Many researchers define ethics at workplace as the way that the employees use to act at the workplace. Ethics at Workplace are codes of conduct that influence the development of an ethical culture within the workplace. Ethics at Workplace inspire communication between employees, allow for respect to be extended to each person within the organization, and promote customer relationships that are based on honesty and integrity. While there are core elements that tend to define a work-based

code of ethics, the specific expressions of these central values vary from one corporate setting to the next (Joseph, 2000). Ethics at workplace is very important area to be care about in organizations because it is related both to effectiveness of organization and employees' wellbeing. Ethics at Workplace involve acting morally right, being honest, not cheating your employer, co-workers, or customers, not stealing from the supply closet, and generally treating your co-workers well (AukseEndriulaitiene, 2012). Reynolds (2006) ethical behavior is expressed as the study of "individual behavior that subjected to judged according to general accepts moral norms of behavior." In the present special issue, they rely on this definition and the actual behavior of the individual which its focus on. Psychological perspectives help to deepen the understanding of why it is the case that good people sometimes do bad things. According to May et al. (2003) ethical behavior is the criteria that we hold for ourselves of the characteristics of responsibility, honesty, and how we manage others in all facets of our life. Most researchers have realized that unethical behavior is difficult to be defined because they could lead to different meanings to different people. For example, a study (Tsalikis, Seaton, and Tomaras, 2002) has shown that individuals from different countries and cultures vary in their opinions of what constitutes ethical versus unethical behavior. Organizational Factors are the dominant factors among all pervious factors in causing ethical or unethical behavior at the workplace. Analysis does include several studies which show that organizational factors play a significant role in determining whether unethical behavior takes place in a work setting (Kish-Gephart et al., 2010). Organizational culture is considered as one of the most influential factors. The organization's culture develops over time,

and it affects the behaviors of those who are already part of the organization and of those who are new to the organization (Rogojan, 2009). Organization culture can become a crucial factor to whether or not deviant workplace behavior will be expressed by its employees (Fleet and Griffin, 2006).

Studies show that there is a relationship between ethics from Social and Interpersonal Factors and the personality of co-workers. Organizational deviance is the result of an employee's social exchange with the organization, while interpersonal deviance is the consequence of the social exchange with co-workers (Liao, 2004). Perceptions of social norms, the influence of work groups and supervisors, opportunity, need, and dissimilarity contribute to workplace deviance (Rogojan, 2009).

RESEARCH METHODOLOGY

The research includes one dependent variable which is ethics at the workplace and three independent variables which are organizational factors, social and interpersonal factors, and personality characteristic factors.

Based on the Figure 1, the sample technique of the study will be the convenience model, which gives researcher the option to accept any number of respondents. The main criteria in accepting the respondent as a participant for the study is the value of respondent. This technique assumes that any respondent is a valuable for the study and can add value to the results. Respondents were distinguished from different departments in Infrastructure University Kuala Lumpur. In addition there is difference in their educational level, marital status, and income level. Number of respondents was 60 respondents vary between male and female. The most

appropriate data collection method is questionnaire. (online and offline survey) regarding to the fact that other methods like interviewing is time consuming, email has low response rate and having access to personal emails is tougher than spreading questionnaire. Several strategies used in questionnaire to minimize bias.

DATA ANALYSIS

IBM SPSS Statistics 20 will be the most important tool in analyzing the data that will be collected after distributing the questionnaires. SPSS Statistics is an integrated family of products that addresses the entire analytical process, from planning to data collection to analysis, reporting and deployment. With more than a dozen fully integrated modules to choose from, you can find the specialized capabilities you need to increase revenue, outperform competitors, conduct research and make better decisions.

In this study, data were collected from total 60 respondents. Table 1 indicates that, out of the total respondents, 66.70% were male and 33.3% were female. Moreover, majority of the respondents fall in the young category which consists of total 53.3%. On the other hand, youths consist of 33.3% and only 8 respondents or 13.3% were adult. Interestingly, majority of the respondents are married (66.7%). This indicates that, in Yemen people get married in their young age. However, when we see their income level, majority of them fall under the low or moderate income group. Finally, in the education level, majority of the respondents are either completed their bachelor or master degree. Total 46.7% of the respondents are having bachelor, 30% have masters, 16.7% have doctorate and only 6.7% have high school diploma.

Based on Table 2, descriptive statistics, total 11 items were used to

measure the organizational factor. The lowest mean score is 2.73 which are for Organizational Factor 8. This means that, majority of the respondents are not satisfied with their current salary structure. On the other hand, the highest mean score is for Organizational Factor 6 and Organizational Factor 11 (3.83). The lowest std. deviation is recorded for the item Organizational Factor 7 (0.796) and highest std. deviation is recorded for the item OF9 (1.476).

Table 3, descriptive statistics, total 8 items were used to measure the social and interpersonal factor. The lowest mean score is 3.00 which is for SF2. This means that, majority of the respondents do not rely on others to accomplish their tasks. On the other hand, the highest mean score is for SF6 (4.37). This means that in this university, people are very concerned about what is best for them. The lowest std. deviation is recorded for the item SF7 (0.764) and highest std. deviation is recorded for the item SFS (1.268).

Table 4, descriptive statistics, total 7 items were used to measure the personality characteristics factor. The lowest mean score is 2.73 which is for PC1 which means that, majority of the respondents do not support the idea of stealing even they don't get caught. On the other hand, the highest mean score is for PC7 (3.83). This means that in this university, people are guided by their own personal ethics. The lowest std. deviation is recorded for the item PC3 (0.810) and highest std. deviation is recorded for the item PC6 (1.267).

FACTOR ANALYSIS

Prior to the multiple regressions, reliability and validity of the measurement scale were performed. From table 5, the Cronbach's alpha (α) is 0.819 which proofs to be very significant as Sekaran (2000) has mentioned that, alpha (α) value more

than 0.60 is reliable. Moreover, according to Hair et al. (2010), KMO value (Table 6) should be closer to 1 or at least 0.60 to be considered as valid. In our case, the construct validity is also achieved as the KMO value exceeds 0.60 (for our study the value is 0.828). From the Bartlett's Test of Sphericity, the result is also significant as we can see that, $p < 0.05$.

HYPOTHESIS TESTING

Finally, for testing the hypothesis testing advanced in this study, multiple regression tests were performed. R^2 for this study is 0.791 which is considered a well fit (Table 7).

Furthermore, in the ANOVA table (table 8), we can see that F value is 71.058 with a P value of 0.000 which means $P < 0.05$.

In the coefficient table 9 shows that, only factor 1 is significant at .028 which means $p < 0.05$. Thus, Hypothesis 1: Personality Characteristics will have a positive relationship with ethics at the workplace or accepted.

Factor 2 is not significant as $p > 0.05$ thus, Hypothesis 2: Social and Interpersonal Factors positively affect ethics at the workplace or rejected. In this case, the value is 0.352.

Finally, Hypothesis 3: There will be a negative relationship between organizational factors and ethics at the workplace or rejected as $p > 0.05$. In this case, the value is 0.528.

CONCLUSION AND RECOMMENDATIONS

At workplace ethics is widespread in most workplaces either in public or private companies and enterprises. Regardless the size of the business and from politics to government, business to academia, ethics has become one of the most important issues. Ethics at the

workplace may accrue as a result of internal or external causes. Personality characteristics, social and interpersonal factors, and organizational factors are considered as the dominant factors in causing ethical behavior or unethical behavior at workplace. Ethics at the workplace can be ethical behavior and unethical behavior. Unethical behaviors begin small but escalate into different and more severe sets of behavior. Minor incidents of incivility can lead to aggression and ultimately unexplained absences and actions against the organization can be the result.

Therefore the study came up with some recommendation to prevent or at least to reduce the unethical behavior and increase ethical behavior at educational workplace.

The following list will be the effective and valuable recommendations to prevent the ethics in any organization: Promoting an Ethical Organizational Culture, Enhancing Ethical Leadership, Provide Training Programs for New Employees, Background Checks for New Employees, and Honesty Test for Current and for New Employees.

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Figure - 1
Research Framework

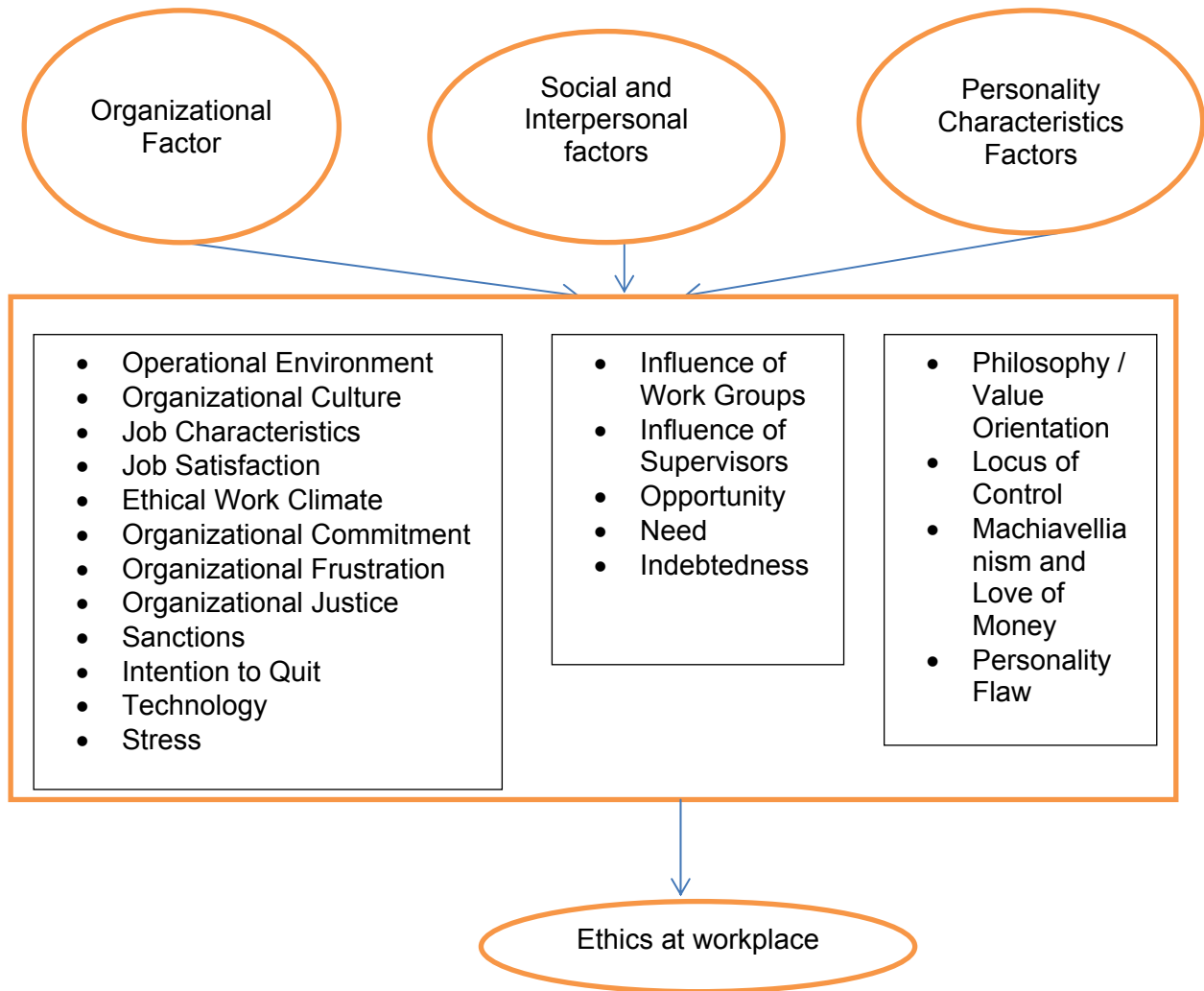


Table – 1
Demographic Profile

Gender	N = 60	%		Age	N = 60	%
Male	40	66.70		Young	32	53.3
Female	20	33.30		Youth	20	33.3
Total	60	100		Adult	8	13.3
Marital Status	N = 60	%		Total	60	100.0
Single	20	33.3				
Married	40	66.7				
Total	60	100.0		Education	N = 60	%
Income Level	N = 60	%		High school diploma	4	6.7
Low	26	43.3		Bachelor Degree	28	46.7
Moderate	22	36.7		Master degree	18	30.0
High	12	20.0		Doctorate	10	16.7
Total	60	100.0		Total	60	100.0

Table - 2
Descriptive Statistics (Organizational Factors [OF])

No	Measurement Item	Min	Max	Mean	Std. Dev
Organizational Factor 1	Justice, fairness and equality are the most important requirements for a person at work	1	5	3.70	1.109
Organizational Factor 2	A distant reward is usually more satisfying than an immediate one	1	5	3.30	.979
Organizational Factor 3	People in this university strictly obey the company policies	1	5	3.13	.965
Organizational Factor 4	Employees, who perceive their organization as a frustrating place, are more likely to call in sick when they are well, takes excessive breaks	1	5	3.37	1.207
Organizational Factor 5	The wrong usage of technology can lead to unethical practices	1	5	3.40	.887
Organizational Factor 6	Stress cause individuals to engage in deviant at workplace	1	5	3.83	.867
Organizational Factor 7	How satisfied are you with your present job in terms of working conditions?	1	5	3.10	.796
Organizational Factor 8	How satisfied are you with your present job in terms of earning?	1	6	2.73	1.351
Organizational Factor 9	The major responsibility for people in your university is to consider efficiency first	1	6	3.70	1.476
Organizational Factor 10	People are expected to do anything to further the university's interest	2	6	4.07	.821
Organizational Factor 11	The most efficient way is always the right way, in your university	1	6	3.83	1.251

Table - 3
Descriptive Statistics (Social and Interpersonal Factors [SF])

No	Measurement Item	Min	Max	Mean	Std. Dev
Social and Interpersonal Factor 1	Self-reliance is the key to being successful	2	5	3.40	.887
Social and Interpersonal Factor 2	I do not like having to depend on other people	1	5	3.00	.974
Social and Interpersonal Factor 3	Individuals do aggressive practices to achieve their goals regardless of others' feelings, rights, and needs	2	5	3.53	.929
Social and Interpersonal Factor 4	All supervising partners within your university see encouraging staff to raise ethical issues with them as part of their role	2	6	3.80	.953
Social and Interpersonal Factor 5	People in your university view team spirit as important	1	6	3.87	1.268
Social and Interpersonal Factor 6	People in your university are very concerned about what is best for themselves	1	6	4.37	1.207
Social and Interpersonal Factor 7	How influenced are you of group and co-workers at your workplace?	2	5	3.60	.764
Social and Interpersonal Factor 8	How influenced are you of Supervisors at your workplace?	1	5	3.27	.936

Table - 4
Descriptive Statistics (Personality Characteristics [PC])

No	Measurement Item	Min	Max	Mean	Std. Dev
Personality Characteristics1	Stealing is all right as long as you don't get caught	1	5	2.43	1.125
Personality Characteristics2	Personality characteristics play a key role in causing unethical behavior at your workplace	1	5	3.77	1.031
Personality Characteristics3	Events are determined primarily by external forces and the out of individual's control	1	5	3.23	.810
Personality Characteristics4	Personality flaws or mental disorders of employee lead to unethical behavior	2	5	3.50	.966
Personality Characteristics5	Ethical behavior can affect the level of performance in your workplace	2	5	3.60	.995
Personality Characteristics6	Each person in your university decides for himself what is right and wrong	1	5	3.23	1.267
Personality Characteristics7	In your university , people are guided by their own personal ethics	1	6	3.83	1.196

Table - 5 Reliability Test

Cronbach's Alpha	N of Items
.819	26

Table - 6
KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.828
Bartlett's Test of Sphericity	Approx. Chi-Square	312.122
	Df	78
	Sig.	.000

Table - 7
Model Summary a,b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.889a	.791	.780	.559

a. Predictors: (Constant), Organizational factor; Social and Interpersonal Factors; Personality Characteristic Factors;
b. Dependent Variable: Ethical behavior can affect the level of performance in your workplace.

Table - 8
ANOVA c,d

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	111.205	3	9.079	71.058	.000
	Residual	28.422	57	14.189		
	Total	140.682	60			

c. Predictors: (Constant), Organizational factor; Social and Interpersonal Factors; Personality Characteristic Factors;

d. Dependent Variable: Ethical behavior can affect the level of performance in your workplace.

Table - 9
Coefficients a,b

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	REGR factor score 1 for analysis 1	.391	.490	.104	.798	.028
	REGR factor score 2 for analysis 1	.460	.490	.122	.938	.352
	REGR factor score 3 for analysis 1	-.311	.490	-.083	-.635	.528
a. Predictors: (Constant), Organizational factor; Social and Interpersonal Factors; Personality Characteristic Factors; b. Dependent Variable: Ethical behavior can affect the level of performance in your workplace.						

Strategic use of RFID in Enhancing Supply Chain Management (SCM)

Siva Prasad Ravi

School of Business and Economics
Thompson Rivers University
McGill Road, Kamloops, BC, Canada
Email-Id : rprasad@tru.ca

Abstract

In the 21 century business landscape characterized by global markets and hyper-competition many business organizations are beginning to appreciate that the real competition among the firms actually boils down to the competition between their respective supply chains. Traditional Supply Chain Management (SCM) has many limitations like inability to tack the raw materials, finished goods, ineffective inventory management, shrinkage, theft, lack of timely information, to name a few. Radio Frequency Identification (RFID) technology is helping the business organizations in overcoming the above mentioned weakness and providing inventory visibility throughout the supply chains. RFID is a revolutionary technology that is providing great cost savings to the supply chains of many organizations in manufacturing, logistics, distribution and retail operations. This paper is a case based study of the strategic use of RFID in enhancing Supply Chain Management and also the challenges to its universal adaptation.

Key Words: Supply Chain Management, Radio Frequency Identification, hyper-competition, inventory visibility, logistics, distribution, manufacturing, retail.

INTRODUCTION

Last two decades have witnessed unprecedented changes in the business landscape. Internet and Information Technologies have changed the rules of the game, by creating a market place that never sleeps. Economic liberalization in most countries of the world coupled with advent of organizations like WTO; resulted in falling trade barriers and consequent hyper competition that is the characteristic of the marketplace today. With easy access to the information available on Internet, customers have become powerful and demanding. Customers are now deciding what products and services they want, where they want and at what price they are willing to pay. Customers are expecting highest value from the businesses and customer loyalty has become a thing of the past. If a business fails to meet the customers' expectations,

they are switching to competitors. Product life cycles got reduced, time to market has become very critical, continuous product innovations have become imperative as customers are demanding customized products. Most businesses have realized the hard way, that the only way to keep customers is by providing value. All these issues have made Supply Chain Management pivotal to the business success. Creating value to customers entails eliminating waste in the entire value chain and that means designing lean supply chains that are effective. Traditional Supply Chain Management (SCM) has many limitations like inability to tack the raw materials, finished goods in the supply chain, ineffective inventory management, shrinkage, lack of timely information, to name a few. Radio Frequency Identification (RFID) technology is helping the business organizations in overcoming

the above mentioned weakness and providing inventory visibility throughout the supply chains. RFID is a revolutionary technology that is providing great cost savings to the supply chains of many organizations in manufacturing, logistics, distribution and retail operations. According to Windley, during the initial years of RFID implementation, Wal-Mart US is expected to save US \$ 8.35 billion annually by using RFID (www.ameinfo.com, 2005). While a large number of firms are adopting RFID in their supply chains or showing interest, many others appears to be reluctant. This paper is a case based study of the strategic use of RFID in enhancing Supply Chain Management.

Supply Chain Management

All organizations have supply chains and the size of these supply chains differ basing on the nature of industry and products offered. Supply chain management encompasses all the activities a business need to perform to fulfill customer orders. Organizational supply chains normally are made up of a number of processes like forecasting demand, supply planning, procurement of raw materials, manufacturing/operations, warehousing, logistics, distribution and retailing of finished goods that are essential to service the customers. Council of Supply Chain Management Professionals define SCM as 'Supply chain management encompasses the planning and management of all activities involved in sourcing and procurement, conversion, and all logistics management activities. Importantly, it also includes coordination and collaboration with channel partners, which can be suppliers, intermediaries, third party service providers, and customers. In essence, supply chain management integrates supply and demand management within and across companies' (CSCMP, 2011). Mueller and Tinnefeld (2007) define SCM as 'planning

and monitoring of materials, information and fiancés as they move in the process from supplier, to manufacturer, to wholesaler, to retailer and finally to the customer'. A firm's revenues and success are dependent on its ability to place right products in right quantities at the right place. Similarly inventory control and inventory visibility are two costs that directly affect the bottom line. Another important requirement for success is the ability of the firm to locate the products in the supply chain, collect and distribute the data in real time. For example in case of multinational companies, the inventory is distributed in a number of places, in different parts of the world, with suppliers, different distribution centers, in transit and distribution channel partners. The objective of SCM is three fold, first, to increase the revenue of the firm by improving the efficiency of the supply chains and increasing the value to the customers, second, reducing the cost of inventory and third, increasing the speed of transactions and making accurate and timely information on supply chains to decision makers in real-time.

Problems with Traditional Supply Chain Management Systems

According to a report attributed to John Lorinc of Globe & Mail, American Merchants every year lose as much as US \$ 300 billion in revenues due to their inability to track the movement of merchandise between factory and retail outlets (GAO RFID Inc, 2012). The important limitations is the inability to accurately identify and locate any products, pallets, containers during their movement from suppliers to operations to the distributors, wholesalers and retailers. Traditional supply chains suffer from a number of weaknesses. First, is the inability of the business organizations to track the inventory that includes the raw materials, work-in-process, and finished

goods in real time, second, related to the first one is the non-availability of accurate information leading to ineffective demand planning, third is lack of inventory visibility, fourth is poor inventory control, fifth is low accuracy of inventory records, sixth is excessive costs of managing ware houses, seventh is theft and shrinkage, eighth is high cost of logistics management, ninth is excessive labor costs, the tenth is poor relations with suppliers and distribution channel partners and the eleventh is stock outs. The other weaknesses include poor inventory visibility, stock outs, very high warehousing costs, excessive labor costs, shrinkage (Kamaldevi, 2010). The root cause of all the above weaknesses is the inability of organizations to identify and track inventory in real-time. The past efforts in developing automatic identification of products led to the development of barcodes. Barcodes are inexpensive and have many virtues, due to which they have become the most used technology in inventory management today. However barcodes suffer from some weakness like limited data storage capacity, need for manual processing as they are not capable of automatic identification and can be easily damaged. Effective supply chain management is only possible when real-time information is available to the decision makers, which needs visibility of all the SCM process and inventory visibility. Lack of accurate information can lead to bullwhip effect, where the forecasts by different supply chain partners vary from the actual demand and the combined effect results in the supply chain ordering too much or too little. Over production due to inaccurate supply chain information and inaccurate demand forecasting resulted in a loss of US \$ 2.1 billion for CISCO during 2001 (Mueller and Tinnefeld, 2007). RFID is capable of automatic identification and has proved to be a success in addressing

many of the above problems related to traditional supply chains using barcodes.

RFID

RFID as a concept is an old one, with its origin during Second World War, and in the Toyota production System of 1950s. RFID is an automatic identification technology that has proved itself in effective inventory management across entire supply chains. Top retailers Wal-Mart, Costco, automobile manufacturing firms like Toyota, and government organizations like US Department of Defense have all made RFID usage compulsory and are deriving substantial benefits from RFID implementation. RFID is a relatively simple technology comprising of three components, which include an electronic tag, RFID tag reader and computer system with necessary hardware and software (Hunt, 2007).

The RFID tags are a combination of a tiny chip and antenna, capable of transmitting information using radio waves. RFID tags can be as small as a grain of rice. The tags can be attached to individual components, products, pallets, containers, equipment or even to documents. RFID tags operate on different frequencies, Low frequency (KHz to MHz) or High frequency (MHz or GHz) bands. Currently there are three types of RFID tags, passive tags, semi-active tags, and active tags. Passive tags store the data but do not have power source on the chip and draw the necessary power from the card reader. They have a very short range for communication usually less than 10 meters. Semi-Passive tags have an internal battery for the use by the chip, but still draw power from the reader for communications. Active tags are self-reliant for power has long ranges for communications usually in the order of up to 100 meters. All these tags can be further subdivided into two categories read-only and read-write.

The RFID reader (also called interrogator) automatically captures the information on tags as they move by the reader, without human intervention. RFID tags and readers do not require line of sight communication and hence the readers can be placed anywhere in the area through which the inventory is moving. Multiple readers can be placed in one area to overcome possible loss of data due to collision of radio waves. RFID readers can also provide encryption and decryption in real-time. The RFID reader's communication with tags and scanning takes only a few milliseconds and can simultaneously scan multiple items.

This information is then passed on to the computer system, the RFID controller, where dedicated RFID software processes the data and triggers the necessary action like setting the production process in motion or moving the inventory etc. RFID controllers can vary in size from small desktop computers to dedicated mainframe computers, depending on the size of operations.

EPCglobal is the international body on setting the standards on how the information is stored on the tags. EPCglobal has set three standards EPC, ONS and PML for RFID system architectures. Individual items are identified using a unique universal identification number called an Electronic Product code (EPC) that is encoded on to the RFID tags. EPC comprises different parts, a header that shows EPC version, An EPC manager that identifies the manufacturer, object class providing details of product and serial number, which is a unique identifier. Information from EPC can be used to query ONS, Object Naming Service for obtaining name and network address of manufacture, which in turn is used to obtain the product information written in Product Markup Language, hosted on PML server. EPC code helps in automatically

identifying the location of the object to which it is attached anywhere in the supply chain using Internet. RFID technology can be used in conjunction with cryptography making it difficult for anybody to duplicate it.

RFID based SCM

RFID technology can support a wide range of applications in SCM, including manufacturing, warehousing, distribution, logistics and retailing centers (www.rfid4u.com, 2006).

RFID in manufacturing:

RFID tags can be placed on each and every component, product that needs to be tracked in the manufacturing process. This decentralized approach and ability to track every single item throughout the production process, provides accurate, real-time information. The automatic identification eliminates the need for multiple data entry every time the product moves in and out of different stages of the production process, reducing the need for labor. RFID is very useful in identifying items that need checking in and checking out or inspections at different points. Paint and Temperature are the enemies of barcode technology. RFID on the other hand can work up to temperatures of 415 degrees. RFID use resulted in reduced errors in using wrong parts and helps improve overall quality. In manufacturing increasing visibility of work-in-progress inventory leads to cost reduction. RFIDs can be particularly useful in case of product recalls.

RFID in distribution:

RFID reads the data on pallets on arrival at distribution centers. RFID's ability to automatically identify products and track them in real-time as they move through the different parts of distribution channel greatly enhances the supply chain visibility. Additional benefits include bulk processing,

granular processing, and elimination of need to open the packaging. As there is no need to scan every package manually as is the case with bar-codes, RFID tags can reduce the distribution costs significantly. In a typical distribution center labor alone accounts for 50-80% total costs. RFID can help reduce the check in-time by 60 to 93% and result in cost savings of 36% in order pick up and 90% reduction in verification costs (Keith, 2002).

RFID in Warehousing:

In warehousing RFID accrues benefits of inventory visibility, accuracy, reduced shrinkage, stock outs and inventory levels. RFID increases inventory visibility and products can be tracked in real time all along the supply chain that results in increased accuracy, which in turn leads to faster responses to customer demands.

RFID in Retailing:

RFID use in retail provides 100% inventory visibility. Further tracking of expiry dates can be done without manual inspection. Traditional system of supply has been replaced in many retail organizations with JIT methods like Vendor Managed Inventory. Vendors mostly depend on the sales data from POS terminals for replenishment decisions. However POS terminals cannot provide data about stock outs and lost sales. Further POS cannot prevent thefts, shrinkage or spoilage or provide information. RFID can provide vendor a better control by providing accurate data in all these aspects, ability to share data with supply chain partners online and reducing shrinkage.

RFID based supply chains also provide a number of other benefits like enhanced supply chain control, efficient labor use, reduced inventory, better order fulfillment, reduction in safety stocks, reduction in stock outs and sales lost,

reduction in shrinkages, increasing throughput and quality and collaboration with suppliers.

RFID technology transforms the supply chains from push system to pull systems. In push system, manufactures resort to mass production in order to achieve economies of scale and push them to the retailers. Often the manufacturers fail to achieve the desired results due to inaccurate demand forecasting. Producing more results in unsold inventory and additional costs to store and producing less in stock outs. In a pull system production is synchronized with sales and the retailers initiate the production process and pull the products they need. Pull based systems often help in reducing the inventory buildup and overcome 'bullwhip' effect.

Case: RFID at Wal-Mart

Wal-Mart with 3449 stores in US and 4557 in different countries is undoubtedly the largest retailer in the world. Wal-Mart employs more than 2 million people worldwide and for the year 2011, recorded revenue of US \$ 41.89 billion (Wal-Mart, 2011). Wal-Mart divided its business operations into three segments, Wal-Mart stores, Sam's Club and International Stores. Wal-Mart follows 'cost leadership' strategy and implements their slogan 'everyday low prices' unlike other retailers who try to lower the prices periodically. Toward this end, Wal-Mart procures merchandise from many different countries of the world and make available to different retail outlets in different parts of the world. Wal-Mart's Global supply chain stretches from China in the Far East to US in the West, Canada in the North to Latin America and India in south. Supply Chain Management is of paramount importance to Wal-Mart's continued success and retaining its position as the most successful retail store chain in the world. Wal-Mart is continuously looking for ways

to reduce the costs associated with all activities of value chain.

Wal-Mart's supply chain can be broadly classified into three groups, procurement and distribution, Logistics and transportation, and Inventory Management. Wal-Mart has distribution centers in different geographic locations across US (and also in other countries to serve local stores). Earlier Wal-Mart used barcode technology and employees with hand held readers use to move around keeping a track of inventory, capturing the details into the central computer system, and ensuring quick turnover. The process being labor intensive was expensive and also error prone. Introduction RFID in many distribution centers, which does not require line of sight scanning like in the case of barcodes, not only reduced the costs, but also increased the inventory visibility and accuracy. On the logistics front Wal-Mart in US operates a fleet of more than 8000 trucks, servicing the retail stores twice a week from distribution centers. Wal-Mart perfected 'cross docking' moving goods from suppliers directly to customers using RFID technology. RFID helps Wal-Mart in identifying effective inventory management.

The key to controlling the vast supply chains of Wal-Mart are ensuring inventory visibility across the entire supply chain and availability of accurate information in real-time. Wal-Mart successfully pioneered the implantation of RFID technology as a means of achieving these twin objectives. Wal-Mart has initiated the pilot for using RFID project in 2003. In 2003 Wal-Mart has made it compulsory for its top 100 suppliers to use RFID and mandating all suppliers to implement RFID by 2006. Wal-Mart's aim was to reduce 15% of workforce employed in scanning the barcodes, which in monetary terms means a savings of US \$ 6.7 billion annually. Though initially Wal-Mart set the target date for RFID

implementation as end of 2004, later extended it to 2005, as a lot of suppliers felt the cost of implementation was very high and that they were not deriving any benefits from RFID implementation. The hundred suppliers spent US \$ 250 million on RFID implementation and most felt that they will have poor return on investment (ROI). During 2004, Wal-Mart set January 2006 as the deadline for the next 200 suppliers. During October 2005, Wal-Mart started RFID implementation in 600 stores and 12 distribution centers and wanted the next 300 suppliers to have RFID in place by 2007. Wal-Mart's objective was to have all their suppliers numbering more than 15,000 to use RFID tags and also to have product level RFID tags for all its 22 distribution centers in US, by the year 2010. In 2008 Wal-Mart came out with a new RFID strategy and in January 2008, started imposing penalties on suppliers for non-implementation starting at \$2 per pallet and going up to \$3 per pallet. While implementing this project Wal-Mart achieved a tag read rate of 66% on individual cases loaded on pallets and near 90% at case and cart level. In January 2009, Wal-Mart dropped the penalty to 12 cents.

According to a 2005 study by University of Arkansas, use of RFID resulted in a reduction of stock outs by 16% at Wal-Mart, as the stocks with RFID tags were replenished three times faster than those using barcodes. This means an annual savings of \$600 million for Wal-Mart. Wal-Mart's sales in 2003 were US \$ 245 billion and 1% improvement in stock outs could generate a whopping US \$ 2.5 billion. At busy times Wal-Mart employees could only fill one out 12 stock outs, and RFID has dramatically improved this, as employees are able to locate the items easily in the storage rooms. Another benefit Wal-Mart derived from RFID implementation at store level in Mexico where full inventory is equipped with RFID

tags is, the ability to carry out a 100% stock count in 30 minutes. Wal-Mart after years of experimenting Wal-Mart now is standardizing their RFID technology to EPCglobal's Gen 2 technology and made it compulsory for all suppliers to install RFID tags on all their merchandise, be it jeans or underwear.

However many of Wal-Mart's suppliers are not sharing the enthusiasm. In fact a number of them feel that only Wal-Mart is benefitting from RFID where as they are saddled with additional costs. For example, in February 2009, Proctor & Gamble ended its participation in Wal-Mart's RFID program claiming that their study could not validate the Wal-Mart claims about benefits to suppliers. (Angrish et.al, 2005; Mueller,S. & Tinnefeld,C, 2007; Themen, 2005; Murphy,2005: Supply Chain digest, 2009; Piita, 2010)

Challenges to RFID

Notwithstanding the benefits of RFID implementation, many business organizations are reluctant to adopt RFID due to the following issues:

Costs:

RFID adoption results in the following costs to the business. First is **cost** of RFID infrastructure. The infrastructure costs are a major reason as to why many businesses are reluctant to adopt RFID. The tag readers can cost from \$500 to 3,000. However the single largest expenditure is RFID software which can cost up to \$200,000 or more. Second is the cost of Operation and Tags. As on today the cost of RFID tags is too high, in the range of 30cents to \$1.00. According to a Canadian firm, breakeven point for RFID tags is 15 cents. The industry objective is to bring the cost down to 5 cents apiece. Further customers (Retailers) benefit more from RFID than suppliers. Many suppliers find that they are incurring more cost than benefits and want all the partners in supply

chain to share the burden. However large retailers like Wal-Mart have their say, but it is not possible for small customers to compel the suppliers to use RFID. Third type of costs involved is other related costs. The other costs associated with RFID include cost of training employees, extra costs due data misinterpretations, damaged tags. As on today return on investment (ROI) on RFID projects is fairly low.

Lack of standardization:

As of now RFID technology has not been standardized. It is also unlikely that there will be standardization in future as different standards are coming up in different parts of the world. Lack of standardization is one of the most important reasons as to why a large number of potential users are shunning away from RFID.

Privacy and Data Security:

The most important concerns about the use of RFID stems from the possible misuse of the data collected by RFID tags. RFID tags can be embedded into objects and products without the knowledge of the customer. Combining RFID collected data with other information available with them like credit card data; business organizations can not only profile customers but also track their movements. This and many other issues pose ethical, moral and legal problems about data security.

Technical Issues:

The wide range of technical issues that need improvement are increasing the read ranges of card readers, ability to store more information on tags, reduction in number of defective tags, preventing damage to the tags. A number of reasons ranging from interference to fading to transient effects can prevent RFID readers in reading the information on Tags,

resulting in missed reads. Missed reads is an unfortunate reality. Failure rates in early RFIDs were around 30%, but this is steadily coming down. However, achieving the ideal read rate of 100% may not be realized in the near future.

CONCLUSION

The main benefits RFID provides businesses are, first total visibility of the supply chain and availability accurate information in real-time. RFID also provides data for customer and market analysis. Both manufacturers and retailers can benefit as RFID enables JIT methods. However RFID suffers from some weakness relating to costs, technology, privacy and ethical issues. Further as shown in the above case, in many instances suppliers incur a lot of extra expenditure to implement and operate the system, but do not derive proportional benefits as the retailers, highlighting the need for the overall costs to be shared by all the supply chain partners in a just way, to derive complete benefits of the system. As the technology is standardized and the costs come down, RFID is expected to record a phenomenal growth in years to come. Notwithstanding the present teething problems, RFID is likely to play a very important role in developing and operating effective, visible supply chains of future.

Scope for Future Research

Future researchers can investigate the concerns and challenges of business organizations that are inhibiting the universal adoption of this revolutionary technology in greater detail and suggest possible measures to overcome these concerns, facilitating universal proliferation and strategic use of RFID.

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Poverty Alleviation Strategies and New Economic Model in Malaysia

Dr. Mohd Zin Mohamed

Associate Professor

Department of Urban and Regional Planning,
Kulliyah of Architecture and Environmental Design,
International Islamic University Malaysia

E-mail: zin@iiu.edu.my

Dr. John Antony Xavier

Professor

(Universiti Kebangsaan Malaysia)
National University of Malaysia

Abstract

Poverty eradication remains high on the national agenda. Malaysia's seriousness about poverty eradication - one of the millennium development goals - has enabled it to achieve a drastic reduction of the poverty rate from 60% in the 1970s to 3.8% in the 2009. Hard core poverty has been virtually eliminated, declining to 0.7% in 2009. Although the incidence of poverty is low, pockets of poverty exist with high incidence among specific ethnic groups and localities. The New Economic Model (NEM) takes the fight against poverty to even further heights. Unveiled in 2010, the NEM is the roadmap to double Malaysia's current per capita income of USD 7,000 to USD 15,000-17,000 by 2010 and, thereby, qualify as a high-income country in line with its Vision 2020. This ambition causes the NEM to focus on the lower 40% income households who have experienced a relatively flat income growth rate compared to those in the top 20% and middle 40% households who have enjoyed steep income growth rates over the last three decades. Combining descriptive and analytical methods involving interviews with selected high-level officials directly involved in poverty eradication and secondary data, the paper evaluates Malaysia's efforts at poverty eradication over the last 50 years. It highlights the approach taken by the NEM in combating poverty. Much of Malaysia's success has been the result of its macro- and micro-management of poverty eradication. At the macro level, policies and plans spell out the broad strategies to conquer poverty. The determination of poverty eradication as one of the six national key result areas brings poverty eradication under micro scrutiny. Specific policy initiatives and programmes are being implemented to wipe out pockets of poverty. The practical value of this paper is that it offers policy-makers a digest of workable strategies critical success factors in poverty eradication.

INTRODUCTION

This section highlights that poverty is multidimensional. It offers a theoretical basis for the many initiatives taken by the Malaysian government in its efforts to eradicate poverty.

Poverty eradication appears first in the list of the millennium development goals (MDG). Implicit in its pole position is the contention that poverty is the root cause for many of the malaises for which the UN had instituted the MDG. For want of income, poverty denies poor families access to basic education for their children. Lack of shelter, clean water, proper

sanitation and fuel – a ubiquitous landscape of the poor– bring in their wake diseases, ill health, infant and maternal mortality and health. Consequently, these interrelated factors reduce longevity and contribute to environmental degradation.

Poverty is an affront to human dignity and rights warranting state action against it. (Ministry of Education Uganda, 2003; Sengupta, 2007). One weapon of the state in its fight against poverty is increasing the income levels through economic growth. This is because high concentrations of poor also exhibit low economic growth (Kakwani, 1993).

Economic growth offers employment and business opportunities to the poor while providing the government with an expanded revenue base to expand the provision of basic social services and infrastructure across society.

Studies have also shown that poor children have poor outcomes in education. That perpetuates the cycle of poverty. Governments have focused on education of the poor to break this vicious cycle where lack of education keeps the poor in the quagmire of poverty (Ladd, 2012).

However, state intervention in social reengineering and socio-economic management has had mixed reception in academic literature. The statist centralised planning of socio-economic programs for, among others, poverty eradication, was the paradigm of the now extinct USSR, with remnants now existent in socialist countries such as Cuba and North Korea. At the other extreme, the *laissez faire* or the free-enterprise capitalist system requires the government to play only a minimalist night-watchman role in the economy. Norzick (1972) and the Austrian school - spearheaded by economic luminaries such as Schumpeter and Thomas Friedman - advocate that markets are self-regulating and government should, therefore, not temper with its operation.

An intermediate system between these two extremes is the mixed enterprise system. In this Anglo-Saxon model, the state loosely regulates economic growth while itself participating in the economy. The Anglo-Saxon model takes on a more statist approach in the Nordic countries, France, Italy and, to a lesser extent, Germany with immense state welfarism and redistribution of income through expansionary fiscal policy (Roubini, 2009; Wolf, 2009; Hendrekson and Jakobsson, 2000; Roubini and Mihm, 2010).

While the recent 2008-2009 financial crisis across the US and the EU

exposed the defects of the Anglo-Saxon model, the preponderant underlying direction is still towards a free-market mechanism with proper regulation of markets but without state control over the economy (Stiglitz, 2010). Towards that direction, economists have suggested, among others, that the state's role in socio-economic management should be more appropriate to societal needs. Accordingly the state should seek to lower income inequality and promote rural and agricultural development as nearly half of the labour force in developing countries relies on agriculture for its livelihood (Gosh, 2010; Schwanen; 2010; Stiglitz 2010).

Rawls (1971) theory also offers justification for state intervention in addressing income disparity. He portrays society as being ordered on an extensive system of liberties to all and tolerance of income disparity where it benefits the poor. To guarantee the welfare of posterity, Rawls also espouses inter-generational equity through the judicious management of resources by the existing generation.

Rawls' theory fits well with the aspirations of the NEM and the socio-economic policies of the past. Malaysia's Anglo-Saxon model of economic development ensures narrowing of income disparities in the economy and the alleviation of the plight of the poor. Malaysia's inclusiveness and sustainable development doctrines, enunciated since the Third Malaysia Plan (1976-1980), ensure inter-generational equity (Xavier and Ahmed, 2012).

Malaysia's definition of poverty

Poverty and hard-core poverty have been given a standardised definition under the Tenth Malaysia Development Plan (2011-2015) (Government of Malaysia, 2011). As Figure 1 illustrates, the Plan differentiates households as being extremely poor and poor. All those households having an income below USD

740 per month are considered low-income households irrespective of whether they are rural or urban dwellers. They form the target group for the income alleviation and income disparity reduction efforts under the NEM.

Insert table 1

Past Performance At Poverty Eradication: 1957-2009.

This section traces the progress of poverty eradication efforts over the last 50 years. It argues that much success at eradicating poverty has been due as much to the stellar economic growth as it is due to the wise policies and plans of the government.

The millennium development goals (MDG), including poverty eradication, underwrite much of Malaysia's socio-economic development initiative. It was the singular focus on poverty that enabled Malaysia to achieve well ahead in 1999 the MDG target of reducing the proportion of the population living below the poverty line by 50% between 1990 and 2015. Poverty rate declined to 8.5% in 1999 from 17% in 1990 (Shireen, 1998; BNM, 2000).

Malaysia went full steam to bring down the poverty rate to 3.8% in 2009. In 2009, 40% of the households (2.4 million households) had a total income of less than RM2,300 per month. 0.7% (or 4,250 households compared to 44,650 in the mid-1980s) was considered hard-core poor.

Figures 2, 3, 4 and 5 below show the gradual decline of the poverty rate – absolute and across ethnic groups and regions - from 1970. The reduction in poverty was accompanied by rising living standards.

Insert table 2

Insert figure 1

As Figures 3, 4 and 5 illustrate, the income disparity between ethnic groups

has improved as a result of various policies on growth with distribution. The NEP also enabled the creation of a Bumiputera professional and middle class group, with higher equitable employment participation in higher value-added occupations. In 2008, Bumiputera accounted for 51% of the management and professionals category of activities. The number of Bumiputera professionals such as doctors and accountants grew significantly from 1995 to 2008. Bumiputera share of selected professionals has also improved, accounting for 60% of architects, 53% of doctors and 52% of engineers.

Insert figure 2

Insert figure 3

Insert figure 4

Much of this success at poverty eradication was on the back of the country's sterling economic performance. In the East and Southeast Asian region, Malaysia stands out as one of the most outstanding economies in terms of the rate of economic growth and poverty reduction. Thanks to years of impressive growth of 9% before the Asian financial crisis more people have been pulled from abject poverty. Consistent with the high growth rates, per capita income increased from US\$900 in 1970 to US\$9,700 in 2011. Per capita income in Malaysia in 2010 was second only to Singapore in the countries in Southeast Asia and considerably higher than that of other countries of the region (Wikipedia, 2012).

Despite this commendable effort at so short a time, the incidence of poverty is not uniform across the country. While the incidence of poverty varied between urban and rural areas, territorial difference in the incidence of rural poverty is glaring. The overall incidence of poverty in Sabah is the highest at 19.7%, while that of Sarawak is 5.3% (equal to Kedah). Perlis is second at 6%. Sabah too registered the highest

incidence of rural poverty at 32%, with Sarawak recording the second highest at 8.4% (EPU, 2012).

Malaysia's effort at poverty eradication has been relentless since the time of its independence in 1957. Public policies were instrumental in beating back poverty. Chief among which was the New Economic Policy. Formulated in 1970, it sought to eradicate poverty by generating new employment opportunities and raising income levels of all Malaysian irrespective of race. The NEP was a resounding success. It reduced the overall poverty incidence from 49.3 per cent in 1970 to 17.1 per cent by 1990 (Government of Malaysia, 1991; Nair, 2000).

In 1991, the NEP morphed into the National Development Policy (NDP) (1991-2000) with poverty still being the focus. As a result, poverty declined further to 6% in 2002. Even more warming is that, during the span of these two policies (1970-2000), the hard-core poverty rate had more than halved to 1.2% surpassing the government target (Government of Malaysia, 1991; 1996; Mahbot, 1997; JBIC, 2001).

The country went on to register declining rates in poverty and hard-core poverty under the National Vision Policy (2000-2010) that replaced the NDP. Despite the impressive progress made in the reduction of the incidence of poverty, ethnic disparities in poverty have continued. Although the incidence of poverty among Bumiputras has decreased by two-thirds in 2009 from a high of 65% since 1970, it is still high compared to only 5.7 per cent for the Chinese and 8 per cent for the Indians.

The impressive record of poverty reduction in Malaysia paralleled improvements in a number of social indicators. By 2010, 93% of the population had access to safe drinking water while 99.6% had access to electricity in

Peninsula Malaysia. In Sabah and Sarawak 77% of the population had access to electricity. During the period 1970-2010, primary enrolment rate increased from 87% in 1970 to 99% in 2010. Life expectancy rates for both females and males increased to 75 years and 70.2 years, respectively. Literacy rate was as high as 94% in 2010. And for the last two decades, barring the crisis periods of 1996-1997 and 2007-2008, the economy has enjoyed full employment with unemployment below 3 per cent (Treasury, 2011/2012). These indicators are similar to those of the middle-income countries and, in some cases, high income countries (Julian and Zafar, 2009; Government of Malaysia, 2011).

Current Macro Efforts at Boosting Income Levels

Although the incidence of poverty has plunged from 49.3% in 1970 to 3.8% in 2009, poverty eradication still remains a central agenda of the government. This seriousness of the government is evident in poverty being one of the six national key result areas to which are devoted disproportionate amount of resources. Notwithstanding, pockets of poverty remain in terms of specific regions and particular communities. These are being addressed through targeted approaches such as rural infrastructure development designed to enhance the quality of life, provision of welfare benefits to the poor and the provision of income generating opportunities such as through agropolitan projects. To address the plight of the urban poor specific interventions such as micro-credit schemes have been directed (Government of Malaysia, 2012, p. 18).

Despite policies geared to its reduction, income disparity has been getting wider over the years. As Figure 7 illustrates, while the top 20% of the households enjoyed income growth in

tandem with that of GDP growth, the bottom 80% have not fared well. Worse, the bottom 40% has had the slowest growth in its income level with households earning a modest USD 17 a day (or USD 500 a month) (Nambiar, 2010).

Insert figure 5

With poverty not as worrisome as it was back in 1970, the focus now is on income disparity, especially the 40% of the households that are in the low-income category. This strategy differs from those of poverty eradication in that it is not so much a case of giving hand-outs as of giving the low-income households the opportunity to improve their living standards by enhancing their earning potential. Skills training and entrepreneur development are among the programmes to enhance the earning capacity of this group.

The New Economic Model (NEM): macro framework at income enhancement

It was this lack of progress in narrowing the income differential that resulted, among others in the government formulating the New Economic Model (NEM) in 2010. The NEM seeks to enhance the income levels of households at the bottom 40%. This can be achieved if Malaysia could extricate itself from the middle-income trap that it has found itself comfortably in. Breaking out of the middle-income trap alloyed well with the country's Vision 2020 of becoming a developed nation. Accordingly, the NEM sought to increase the per capita income from USD 7,000 in 2010 to USD 15,000-17,000 (two-fold jump) by 2020. Catapulting the country to rich-nation status will place Malaysia among countries such as Singapore, Czech Republic, Poland and Slovakia). (See figure 8).

Sustained high income (without compromising the wealth of future generations) is to be achieved, among

others, through innovation, creativity, higher productivity, new technology and development of multi-skilled and highly skilled workforce. (NEAC, 2010).

Inclusivism also has been a mantra in Malaysia's development effort. This is because where inclusivism emerges, great wealth follows. As inclusivism protects individual rights and promotes investment, economic growth is a natural consequence (Khan, 2002; Acemoglu and Robinson, 2012). True to its inclusive concept, NEM aims to ensure poverty eradication and a more equitable distribution across ethnic communities and regions. Inclusiveness programmes will seek to enhance the income levels of low-income households from RM 1,440 (USD 480) per month in 2009 to RM 2,300 (USD 770) in 2015 (Government of Malaysia, 2011).

Insert figure 6

The NEM provides the conceptual macro approach to achieving poverty eradication and income disparity reduction. Central to this approach are the eight strategic reform initiatives (SRI). These SRIs seek to reorient the Malaysian economy from manufacturing to high-value services. They seek to boost domestic investment and consumption to secure, among others, reduction in income differentials and poverty eradication (NEAC, 2010).

The eight SRIs are: (1) reenergising the private sector; (2) developing a quality workforce and reducing the dependence on foreign labour; (3) creating a competitive domestic economy; (4) strengthening the public sector; (5) transparent and market-friendly affirmative action; (6) building the knowledge base and infrastructure; (7) enhancing sources of growth; and (8) ensuring the sustainability of growth.

These eight SRIs, varied in their objectives, seek to enhance economic

activities and thereby provide employment and entrepreneurial opportunities in a growing economy. This will allow the poor and the low-income segment of the populace a chance to climb up the income ladder. For example, in re-energising the private sector, the government intends to make small and medium-scale enterprises competitive through innovation, offer preferential loans and remove barriers against competition. With the consequent reduction in the cost of doing business, SMEs should be able to enjoy greater business potential and create more employment. Such an outcome should have a positive impact on the low-income households. By developing a quality workforce and reducing dependency on foreign labour, the NEM also hopes to uplift the income levels of the bottom 40% of the households. Among the many initiatives under this SRI are the reskilling of the existing labour force, introduction of the USD300 minimum wage per month, at removal of labour-market distortions that constrain wage growth.

The NEM aims to strengthen the public sector so that it operates efficiently, transparently and with integrity in the delivery of public services. A strengthened public sector should be able to execute poverty eradication and income alleviation strategies with better outcomes.

The purpose of the SRI on market-friendly affirmative action is specifically to reduce income disparity and narrow regional differences by creating market-friendly affirmative action. It also promotes equal and fair access to opportunities.

The SRI on building the knowledge base and infrastructure seeks to create an eco-system for entrepreneurship and innovation and establish stronger enabling institutions. The NEM intends to combine these initiatives with the others to narrow the income differential (Yeah, 2010).

The SRI on enhancing the sources of growth also shares the objective of boosting income levels, especially at the lower rungs of society. Such an outcome is to be secured by developing new markets and creating value. Value is to be created from building scale for cost economies, first-mover advantage and harnessing innovation.

The SRI on ensuring sustainability of growth seeks to ensure that natural resources are not exhausted to the detriment of the welfare of future generations. It also seeks to leverage on the comparative advantage from high value-added products and services to enhance the per capita income. A sound public financial management and the provision of incentives for 'green investment' are other objectives that this SRI pursues for sustained growth per capita income (Xavier and Ahmed, 2012).

10th Malaysia Plan and the Government Transformation Programme (GTP): fleshing out the NEM

The NEM sets the framework for economic and income growth and reduction in income inequality. The 10th Malaysia Plan and the GTP are the instruments to craft out specific strategies to flesh out the aspirations of the NEM. This section will outline the strategies encapsulated in these two instruments.

10th Malaysia Plan

The 10TH Malaysia Plan aims to completely eradicate hard-core poverty and enhance the productivity of low-income households. In that direction, it has standardised the definitions of poverty and low-income group. These standard definitions will help agencies to quickly identify and assist the target groups and coordinate their combined efforts effectively.

Additionally, the Plan will enhance the living standards of the bottom 40% households through more opportunities for upward economic mobility. Offering opportunities to upgrade skills in industry-relevant and targeted geographical areas through, among others, industrial attachments and jobs are efforts at creating opportunities for upward economic mobility. Employers will be linked to talent pool in rural areas. And greater support will be given to those intending to establish own businesses through integrated provision of training, funding and key equipment to increase entrepreneurship and employment opportunities.

Government Transformation Programme (GTP)

Under the GTP, poverty eradication is one of the seven national key result areas. Rural infrastructure development, containing the cost of living and improving access to education are the other specific national key result areas of the GTP that complement the specific efforts targeted at poverty eradication. The GTP programme brings together agencies that are in the forefront of poverty eradication. Among the efforts at poverty eradication by these agencies under the GTP are:

The implementation of the rural development master plan (2012-2020)

Targeting 30% rural folk, especially women, for participation in entrepreneurial activities by 2020

Attain 100 per cent coverage of basic infrastructure, utilities and infrastructure by 2020

Increase coverage of electricity supply for rural areas in Sabah and Sarawak to 81 and 90% respectively and water supply for rural areas in Sabah and Sarawak to 70 per cent by the year 2012

Decreasing the digital gap by increasing internet broadband service penetration in rural areas

Promotion of initiatives such as *Azam-tani* (agricultural businesses); *Azam-Niaga* (businesses); *Azam-Kerja* (job-matching and placement) and *Azam-Khidmat* (participation in the services sector)

Implementation of public health programmes such as rural clinics, family health, rural dental service and food and nutrition advisory services and

Provision of vocational and skill training

Current Micro Strategies at Poverty Eradication

Micro strategies at poverty eradication refer to efforts by the government to identify the pockets of poverty – household and spatial – and then shaping relief efforts to suit the needs of the afflicted. Tailor-made programmes are executed for special target groups such as the Bumiputra, particularly ethnic minorities, in Sabah and Sarawak; aboriginal communities in Peninsular Malaysia; residents of Chinese New Villages and estate workers. The government also targets different programmes for specific sub-groups among the poor such as the hard core poor (for whom the government created the Development Programme for the Hard-Core Poor), female-headed families or single parent families, elderly people, handicapped and indigenous groups (Government of Malaysia, 2011).

Here, the government continues to offer income support to the eligible groups. Fiscal assistance includes allowances, scholarships, school subsidy (boarding schools, financial fees, school uniform, and tuition fees) to children in bottom 40%

households to boost their education and skills. Subsidised housing is provided to deserving poor households in rural and urban areas. Additionally, these target groups are given access to healthcare, clean water, electricity and transport infrastructure to improve living standards.

Strategies to elevate the quality of life of rural households generally include providing holistic support programmes for micro-enterprises including grants and cheap funding; linking rural talent pool to employers in nearby clusters and cities; increasing sustainability of income in the agriculture sector through contract farming; providing opportunities for business ownership for capable rural entrepreneurs; increasing land productivity and yield through land amalgamation; improving human capital productivity with rural agriculture and agro-based industries and expanding the application of the agropolitan concept to other agriculture and agro-based industries (Government of Malaysia, 2011)..

Policy Implications

The Malaysian experience at poverty eradication draws a number of policy lessons to other countries as they race to reach the millennium goal of poverty eradication. Among the key implications include the pre-requisite of strong economic growth for a sustained approach to poverty eradication and political commitment as manifested in the policies and institutions directed at poverty eradication. Given the myriad of institutions involved in poverty eradication, coordination among them becomes critical to ensure that the government gets the best bang for the buck. The rest of the section will amplify these key success factors that must hold for efforts at poverty eradication to bear fruit.

Much of Malaysia's success at poverty eradication must be credited to the

dedicated political leadership throughout the last 50 years of its existence. Its unwavering commitment to this venture is evident in the policies instituted and the institutions created and or charged with this noble task. Every five-year development plan has had poverty eradication as one of its key agendas. Policies that informed five-year development planning, starting from the NEP through the DNP and national vision policy and right up to the government transformation policy have focused on eradicating poverty. Although the policy emphasis varied across them, these policies always had their sights trained at poverty eradication. The political oversight of their implementation saw to it that this central government agenda was not derailed by other equally pressing concerns.

One of the hallmarks of the policies is inclusiveness. They were focused on the target group – the poor. They did not discriminate by race or domicile (NEAC, 2010).

These policies did not rely solely on income support, subsidies and outright grants. They empowered the poor – the bulk of whom were in the agriculture sector - to improve their living standards by enabling them to modernise farming practices and value-added processing of agricultural products. The policies also nudged the poor to seek non-farm employment as this type of employment generally provided higher incomes than traditional farming (EPU, 2004).

Another potent feature of Malaysia's poverty eradication policies is that they also serve to reduce income disparity across ethnic groups. As poverty eradication is inextricably intertwined with the agenda to lessen income disparity in society, these poverty eradication policies

took on greater urgency while mustering the needed political support and resources.

Political leadership was also wise enough to realise that policies at poverty eradication can only be effective in an expanding economy. Hence, economic growth was promoted, initially through government participation in the economy and later by encouraging the private sector to become the engine of growth. Through an expanding economy, the government provide employment opportunities and improved living standards to all. It was also able to; from a bigger revenue base that economic growth made possible, channel more resources to poverty eradication and affirmative action without causing angst across the rest of society.

Given that an array of public agencies and public policies is involved in the poverty eradication effort, coordination across them is crucial to ensure non-duplication of effort and waste of resources. Accordingly, the prime minister – reflecting the committed role of political leadership – created a performance management and delivery unit. Headed by a minister without portfolio and supervised by another minister, the unit, among others, coordinates poverty eradication efforts with a sharp focus on outcomes. However, coordination among implementation agencies, especially at the state and local levels remain an issue for resolution (EPU, 2004).

Another strategy that comes out clearly from the government's efforts at poverty eradication is the emphasis of the government on human resource development. That paved the way for the poor to acquire the necessary skills and qualifications to gain employment in the expanding high-wage sectors of the economy. This resulted in the shift of a large number of workers out of the traditionally low-paid rural occupations into

better paid modern sector employment. In addition to uplifting their incomes, training and skills directed at the poor ensure that there is no intergenerational transfer of poverty.

In poverty eradication, as in any other public policy, a country must not only take a broader approach but also a focused approach. The macro approach is evident in policies and five-year development plans. It is also evident in government-aided economic growth - as an enabler of poverty eradication - and in efforts at improving the quality of life of the poor by expanding and upgrading public services, social amenities and physical infrastructure.

The macro approach is supplemented by the micro perspective. Here, the government identifies the location of poor and vulnerable groups and brings specific fiscal, housing, business and employment assistance to these groups. It is this proactive approach at poverty eradication that is a distinguishing feature of the Malaysian experience in combating poverty.

Many of the poverty eradication efforts are 'top-down' programmes and projects. Such centrally-directed programmes may obtain adequate resources to sustain these programmes. However, the lack of community-based or bottom-up programmes breeds a dependency syndrome or a subsidy mentality that leads to a sense of powerlessness among the poor. Political dependency and or political interference are also a natural consequence (Dye, 2011).

CONCLUSION

The Malaysian experience in poverty eradication offers valuable insights to countries involved in eradicating this scourge. Its policies, plans and programmes and a myriad of agencies executing them have enabled the

government to apply overwhelming force upon the problem. The government's growth orientation has provided it a greater revenue base to channel a disproportionate amount of resources toward poverty eradication. Its macro and proactive micro-approach to the problem ensures that no vulnerable group is left behind in the development efforts of the government.

Given the many instruments and institutions coordination had become a problem to warrant action at the highest level of political leadership. Such high-level action reflects that without the continued effort of political masters, poverty eradication, and for that matter any policy, can go nowhere.

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Table - 1
Definition of Extreme Poor, Poor and Low-Income Households (USD1 = RM 3)

	Peninsular Malaysia	Sabah	Sarawak
Extreme Poor	RM 460 and below	RM 630 and below	RM 590 and below
Poor	RM 760 and below	RM 1050 and below	RM 910 and below
Low-income Households	RM 2,000 and below	RM 2,000 and below	RM 2,000 and below

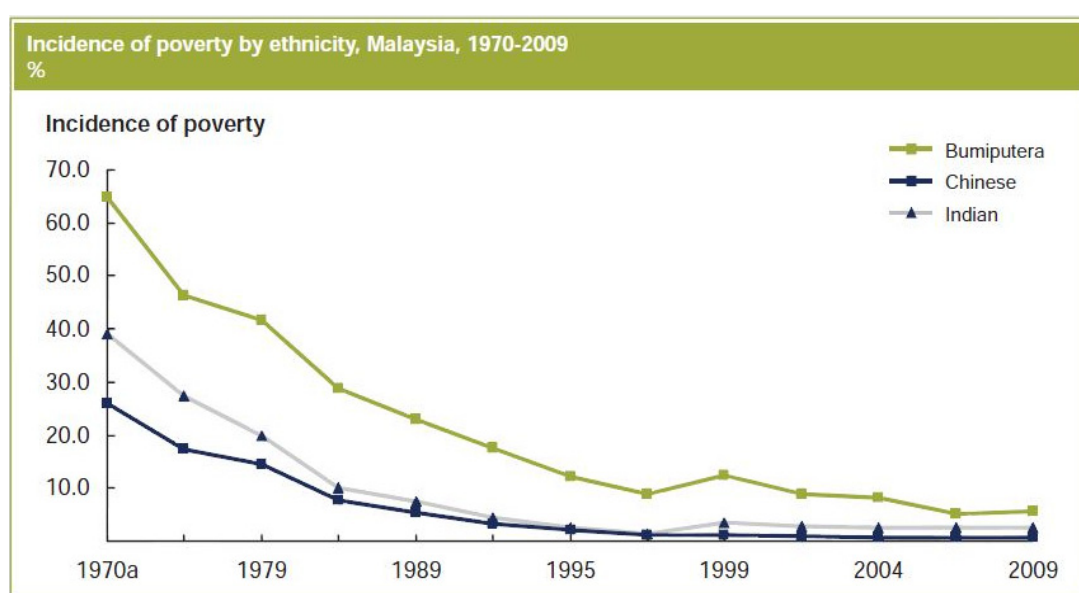
Source: Prime Minister's Department, 2012, p. 198.

Table - 2
Poverty Statistics (% Households): 1970-2009

	1970	1975	1980	1985	1990	1995	1997	1999	2002	2004	2007	2009
Poverty rate	49.3	37.7	37.4	20.7	17.1	8.9	6.1	8.5	6.0	5.7	3.6	3.8
Hard core poverty	n.a	n.a	n.a	6.9	3.9	2.1	1.4	1.9	1.2	1.0	0.7	0.7

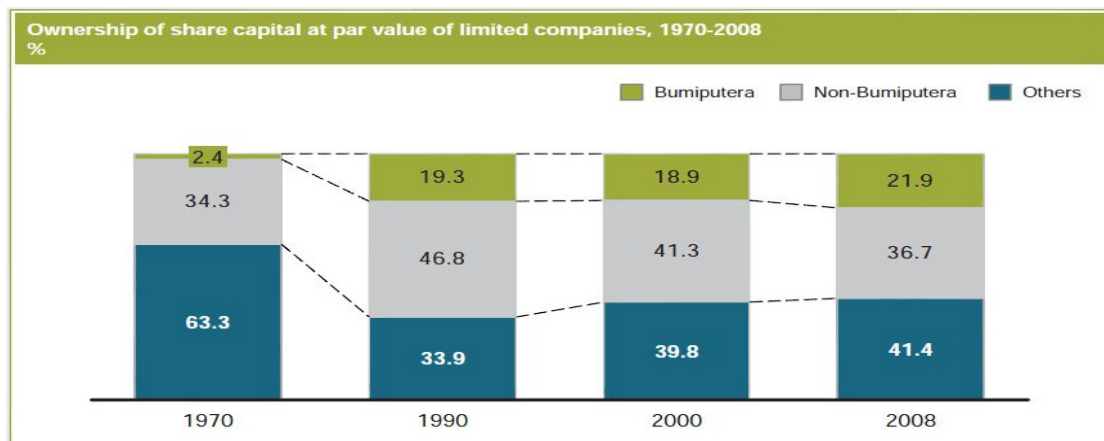
Source: Malaysian development plans: various issues

Figure - 1
Significant Progress in Poverty Eradication across Ethnicities



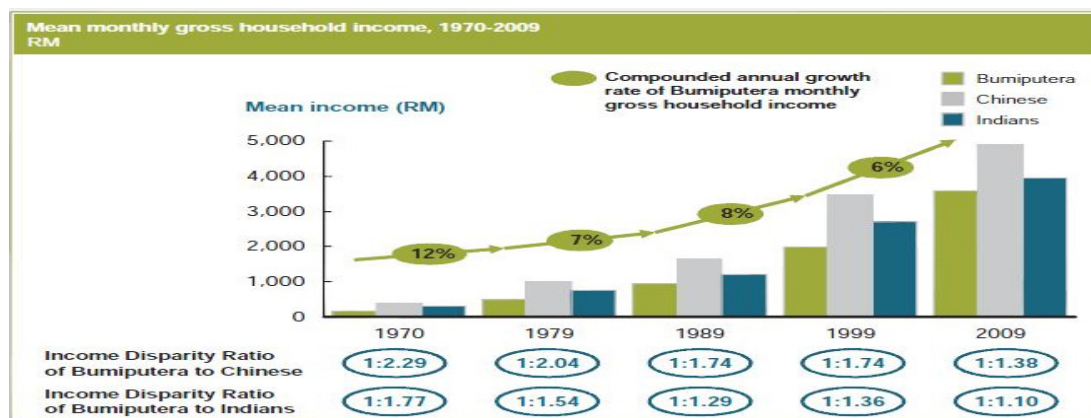
Source: Economic Planning Unit (2012)

Figure - 2
Increase in Bumiputera Ownership of Share Capital



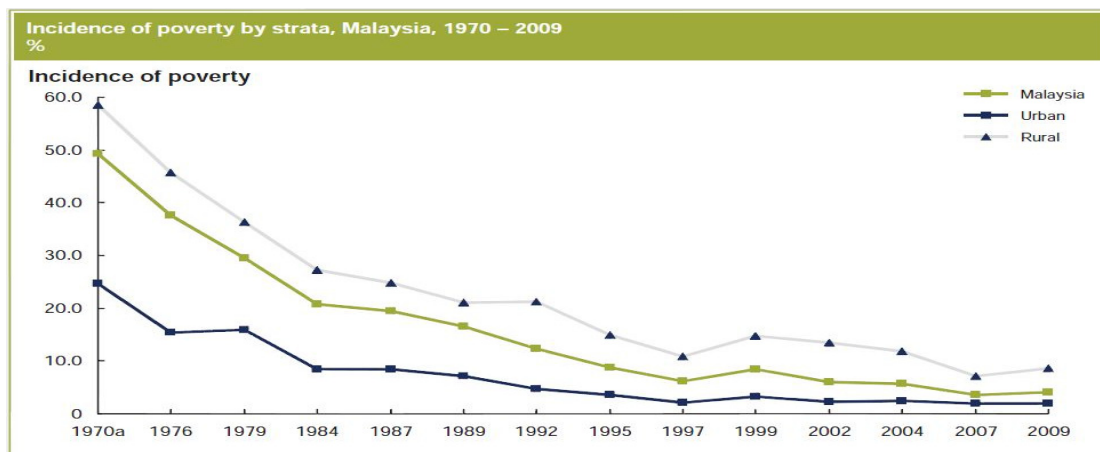
Source: Economic Planning Unit (2012)

Figure - 3
Average monthly gross household income, 1970-2009



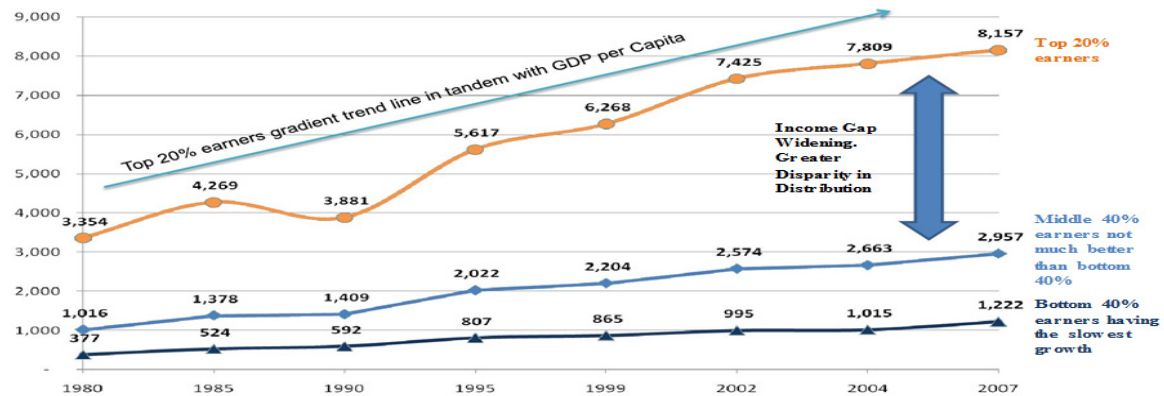
Source: Economic Planning Unit (2012)

Figure - 4
Poverty Decline in both Rural and Urban Areas 1970-2009



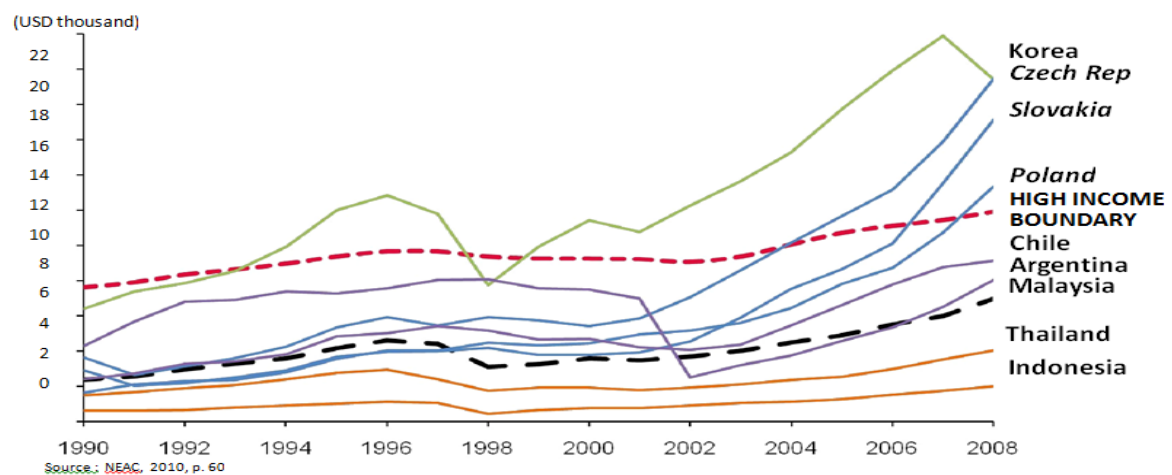
Source: Economic Planning Unit (2012)

Figure - 5
Income Distribution Disparity



Source: NEAC, 2010, p. 58

Figure - 6
Comparison of Per Capita Income across Selected Countries 1990 - 2008



Source: NEAC, 2010, p. 60

Warehouse order Sizes and Cross Docking

Avninder Gill

School of Business & Economics
Thompson Rivers University

Abstract

The basic economic order model does not take into account a number of cost categories and at best, presents a generic model that needs to be modified for various situations. The present paper considers a warehouse ordering quantity under JIT shipments and considers cost categories that are normally not considered under the traditional formula. The approach is illustrated with the help of a numerical example.

INTRODUCTION

Inventory represents a major portion of the total assets of a company. Many companies consider inventory as a necessary evil or a double edged sword. Inventory represents a significant risk as there is always a chance of ending up with an unsold stock of goods. But the role played by inventory in improving the customer service level, enhancing the responsiveness of a supply chain and determining the logistics behavior of a distribution system cannot be underestimated. Customer service level may mean different things in different contexts. In an inventory context, the term service level is mainly interpreted as the availability of a company's products and services when the customer needs them. An adequate level of the stock ensures product availability and customer service levels.

Adequate levels of inventory placed at strategic locations not only improve the supply chain responsiveness but they also allow companies to design efficient distribution systems. But the financial commitment needed to maintain an adequate inventory level forces many companies to consider the cost implications of maintaining these service levels. Therefore, cost minimization emerges as an important objective in most

inventory management models. These inventory management models essentially answer the questions such as how much to order, how often to order, how much stock to carry, how much to ship and how often to ship etc. The answers to these questions would normally involve several trade-offs under different costs structures. In the traditional model, called economic order quantity model, two main categories of costs are inventory ordering cost and holding cost. The traditional approach only models the trade-off between these two cost categories and conveniently ignores several other types of costs. The main reason to consider a narrow range of trade-offs is the mathematical tractability of the approach. Such models, although they are simpler to understand and easier to use, they do not represent a realistic view of the real life situations. Therefore, these models have limited usage for real life problems. The cost categories and their associated trade-offs must be seen from a broader perspective in order to enhance their practical applicability. In the present paper, in addition to the traditional ordering and inventory holding costs, we also consider cost categories such as the material handling costs incurred in a warehouse; the transportation costs of the haulage and the savings resulting from applying the cross-docking concepts in a distribution centre or warehouse. Such cost

categories are common in most warehouses, but the traditional approach fails to capture them. Considering these cost categories in the model, makes the model more realistic and is likely to enhance its utilization by warehouse practitioners.

The paper is organized as follows. In the ensuing section, we discuss the pertinent literature to this problem. Next we present the notation, cost categories and the mathematical framework for our model. Our mathematical approach proposes certain results and formulas that allow a decision maker on how to compute the JIT shipments sizes, shipment frequency and the optimal order quantity. The approach has been explained with a numerical example in the next section. Finally, we also discuss possible extensions of this work and provide the concluding remarks.

LITERATURE REVIEW

Since the inception of economic order quantity idea by Harris (1913) and its subsequent popularization by Wilson (1934), there has been no dearth of literature on the subject. The traditional model assumed a uniform and constant demand and a variation was provided by Wagner & Whitin (1958) to consider time varying demand patterns using dynamic programming. Silver and Meal (1969) provided a heuristic method for solving Wagner & Whitin (1958) model. Goyal (1976) proposed a joint inventory management strategy for supplier and customer. Banerjee (1986) proposed a similar strategy for both parties but under lot-for-lot assumption. Porteus (1986) explored the relationship between quality and EOQ model. Cheng (1991) and Tripathy et al. (2003) studied the relationship between imperfect process, process reliability and economic lot sizing. Goh (1994) discussed the EOQ model in a retail setting. Fazel (1997) offered some

mathematical models to compare the cost difference between the EOQ and Just-in-time (JIT) strategies to help companies decide the EOQ-JIT transition. Minner (2003) provided a survey of inventory models for multiple supplier situations. Yang & Pan (2004) investigated the effects of lead time reduction and quality improvement in an inventory model. Kim & Ha (2003) considered a buyer-supplier coordination model to facilitate JIT deliveries. Jaber et al. (2004) applied the first and second law of thermodynamics to EOQ model. Min & Pheng (2005) argue that it may in fact, be possible for EOQ to be more cost effective than JIT. Mula et al. (2006) surveys some the existing literature on inventory modeling under uncertainty and the survey covers the time period from 1983 to 2004. Lodree (2007) used elementary number theory to propose a heuristic to determine the optimal lot size policy under integer orders. Tsou (2007) considered cost of quality in the EOQ model to conclude that economic order quantity under quality cost is larger than that in a traditional EOQ model. Ertogral et al. (2007) considers shipment dependent transportation costs in a supply chain. Mendoza & Ventura (2008) extended the EOQ model for truck-load and less-than-truck-load quantities and incremental quantity discounts. Teunter et al. (2009) considered economic lot sizing under two production scenarios i.e. manufacturing of new products and remanufacturing of returned goods.

MATHEMATICAL APPROACH

The model for the lot sizing problem considers the ordering process from the supplier to the distributor centre or warehouse. The main assumptions under our model are deterministic demand, constant lead time and instantaneous replenishment. The traditional model also makes the same assumptions. Furthermore, the warehouse or distribution

center in our model accepts multiple shipments under the same order size based on the JIT philosophy. It has also been assumed that the minimum shipment size is the daily demand or in other words, the supplier does not send multiple shipments on the same day. Due to cost, time and efficiency reasons, it would make sense to consolidate the shipments that leave and arrive on the same day.

We use the following notation in our mathematical model for the order quantity

D = Annual demand placed on the distribution centre.

d = Daily demand or the cross-docked amount from a shipment.

S = Ordering cost per order.

h = Storage cost including the housing cost and capital cost per unit per year.

q = Just-in-time (JIT) Shipment size.

n = JIT frequency or number of JIT shipments used for each ordered amount.

Q = Purchasing order quantity from the supplier, $Q = q \cdot n$.

t = Fixed transportation cost per delivery.

m = The per unit material handling cost in the distribution centre.

The Cost Model

Using the above notation, we compute the different types of costs associated with our model as follows.

Ordering costs. The ordering cost consists of expenditures related to placing a purchase order. Typical expenses in this cost category include paper work, communication costs, order processing, purchaser's wages etc. On an annual basis, this cost could be represented as follows.

$$\text{Ordering costs} = \frac{DS}{Q} = \frac{DS}{qn} \quad (1)$$

Transportation costs

This cost involves the transportation cost of sending vehicles from the supplier to the distribution centre. Typical costs in this category include the driver and vehicle costs, truck loading and off-loading costs, fuel costs etc. To meet an annual demand of ' D ' using ' D/q ' shipments, the total annual transportation cost is given as:

$$\text{Transportation Cost} = \frac{t \cdot D}{q} \quad (2)$$

Holding costs

This cost includes the housing costs in a warehouse, the capital (i.e. interest) cost of stock, insurance, pilferage and breakage costs while in storage. If the JIT shipment size is ' q ' units, the average amount of inventory held throughout the year would normally be ' $q/2$ '. This is different from the average inventory level ' $Q/2$ ' considered in traditional inventory models that work under non-JIT environment. However, it may be further noted that from the ' q ' shipment size arriving per day, the daily product demand on the date of arrival can be directly off-loaded to the outgoing vehicles waiting for that day's orders or placed in a staging area. This eliminates the storage needs for that day's orders. The concept is known as *cross-docking*. Therefore, under a cross-docking strategy, the amount placed in storage would be $(q-d)$, with the average inventory level held throughout the year to be $(q-d)/2$. It has been assumed that the vehicle loading and unloading costs at the time of cross-docking has been included in the transportation cost, therefore, they have not been included separately.

Consequently, the annual holding costs under a cross-docking strategy can be written as:

$$\text{Annual holding cost} = h \frac{(q-d)}{2} \quad (3)$$

Material handling costs

The material handling component in our cost model takes into account the fact that in the absence of a cross-docking strategy, a large number of items are received, unpacked, stored, moved to the forward zone for ordering picking and finally shipped to the customers. This requires several material handling movements during the course of product's stay in a distribution centre. However, if a portion of the product is placed in the staging area for next out-bound customer delivery or directly on-loaded to the customer vehicles, this would significantly reduce the material handling steps needed for this product. This results in a substantial savings in material handling costs. We have modeled this scenario in our costing model. For each of the 'D/q' shipments, the material handling activity in the warehouse would be (q-d) per shipment. On an annual basis, the total material handling in the warehouse is given by the following equation.

Annual amount of material handled
 $(q-d) \frac{D}{q}$

Annual material handling cost =
 $m(q-d) \frac{D}{q}$ (4)

It may further be noted that $d \leq q \leq Q \leq D$

Case 1(q = d)

Under this extreme scenario, a shipment equal to the daily demand arrives each day which can be directly cross-docked with no need for in-house material handling or storage in the warehouse. For such a 100% cross-docking strategy, the material handling and holding costs are zero or practically negligible as confirmed by equations (3) and (4).

Case 2(q = Q)

Under this intermediate scenario, the shipment amount is equal to the order size. This scenario would provide D/Q opportunities in a year for cross docking and the annual material handling cost would be:

Annual material handling cost =
 $m(Q-d) \frac{D}{Q}$

Case 3(q = D)

Under this extreme scenario, the entire yearly demand is shipped under one shipment. This is a minimum cross-docking strategy which provides only one opportunity for cross-docking during a year. This scenario would give an annual material handling cost of 'm(D-d)'.

Total cost model

The total overall annual cost can be computed by the summation of equations 1-4 as given below.

$$TC = \frac{DS}{n.q} + \frac{t.D}{q} + h \frac{(q-d)}{2} + m(q-d) \frac{D}{q} \quad (5)$$

It can be observed from equation (5) that the lowest cost can be achieved when an appropriate value of 'n' is identified. In the ensuing discussion, we provide conditions and guidelines to obtain the value 'n'. Under a certain condition that we develop in the paper, the cost function represented in equation (5) can be proved to be a convex function w. r. t. 'q' and an opportunity exists to obtain global minima by setting the derivative equal to zero.

$$\frac{\partial(TC)}{\partial q} - \frac{DS}{n.q^2} - \frac{t.D}{q^2} + \frac{h}{2} + \frac{m.dD}{q^2} = 0 \quad (6)$$

This leads to the following formula for the optimal shipment size, q.

$$q = \sqrt{\frac{2D \left(t + \frac{S}{h} - md \right)}{h}} \quad (7)$$

The Necessary Conditions

It may be noted that for equation (5) to be convex, its second derivative must be positive.

$$\frac{\partial^2(TC)}{\partial q^2} = \left[\frac{2DS}{n \cdot q^3} + \frac{2tD}{q^3} - \frac{2mdD}{q^3} \right] > 0$$

$$\Rightarrow t + \frac{S}{n} > md$$

$$\Rightarrow n < \left(\frac{S}{md - t} \right) \quad (8)$$

Equation (7) ensures that the JIT shipment amount “q” will be positive under condition (8). From a practical perspective, condition (8) means that the per unit material handling cost ‘m’ should be low enough to provide the cross-docking and JIT benefits as compared with the additional per unit transportation and ordering costs i.e. $(t+S/n)/d$.

Furthermore, under the assumption that no multiple JIT shipments are made in the same day, the minimum amount hauled in a JIT shipment will be ‘d’ i.e. the daily demand.

Setting “ $q \geq d$ ” in formula (7) leads to the following condition (9) as follows:

$$n \leq \left(\frac{S}{(md - t) + (hd^2 / 2D)} \right) \quad (9)$$

Also, the maximum amount ordered will be ‘ $Q=D$ ’ i.e. when the whole year’s demand is ordered at the same time. When the maximum amount is ordered but shipped through minimum shipment sizes, this also puts an upper limit on the number of JIT shipments as ‘ D/d ’.

$$n \leq \left(\frac{D}{2} \right) \quad (10)$$

Finally, the minimum value for ‘n’ will be ‘1’ which is the case of non-JIT strategy.

Therefore, the lower limit on ‘n’ is specified as follows.

$$1 \geq n \quad (11)$$

Next, we discuss the upper and lower limits on ‘n’ using two cases.

Case (i) : $md - t \geq 0$. Under this scenario, it may be noted when condition given in formula (9) is satisfied, then the conditions (8) and (10) are automatically satisfied. Therefore, formula (9) provides a sufficient condition to set the maximum number of JIT shipments i.e. an integer value ‘nmax’ equal to or lower than the result obtained from formula (9). It is evident from equation (5) that nmax corresponds with the lowest cost, therefore, we plug $n = n_{\max}$ into equation (7) to obtain the optimal value of ‘q’. The values of ‘q’ and ‘n’ obtained above can be used to compute the order size by multiplying the shipment size with the shipment frequency i.e. $Q = q \cdot n$. Practitioners would want to adjust the ordering amount ‘Q’ to a convenient number. This may render the solution somewhat sub-optimal but traditionally it has been found that the total costs in such models follow a bathtub pattern. Therefore, the total cost is robust enough to accommodate minor adjustments.

Case (ii) : $md - t < 0$. Condition (8) and for some data structures condition (9), render the number of JIT shipments as negative under this case. This infeasible and undesirable solution can be avoided through condition (11) that sets the minimum value for JIT shipments as ‘1’. The maximum value for JIT shipments in this case accrues from formula (10). For various data types, it was found that the lowest cost corresponds with the highest frequency of JIT shipments i.e. ‘ D/d ’.

CONCLUDING REMARKS & EXTENSIONS

Inventory plays a crucial role to maintain satisfactory customer service levels and ensure product availability in a supply chain. However, the financial commitment needed to carry adequate inventory levels can not be ignored. Most inventory models are based on some kind of trade-offs among different cost categories. The trade-off between the ordering cost and holding is the most common one existing in inventory management literature. The present paper considers some additional trade-offs and cost categories which have not been considered in the traditional models. For example, the material handling cost in a warehouse and the cost savings by shipping in smaller quantities and taking advantage of the cross-docking opportunities in a warehouse, has not been addressed in the past literature. Furthermore, the paper provides a solution methodology to compute JIT shipment sizes, JIT shipment frequencies and the optimal order quantities. This highlights the contribution of the present work.

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Effects of International Tourists' Motivation and Perceived Value on Behavioral Intentions: A Study of Malaysian Hospitality Industry

Normaziah Che Musa
UNITAR International
University, Malaysia

Zainora Hayat binti Hudi
UNITAR International
University, Malaysia

Misyer Mohamed Tajudin
UNITAR International
University, Malaysia

M.S.B. Siddiq
Universiti Tun Abdul Razak
Malaysia

Abstract

The purpose of this study is to analyze whether tourists' motivations and perceived value influence their behavioral intentions to patronize the Malaysian Hospitality Industry (MHI). The opinion of 104 international tourists visiting popular attractions in Klang Valley were collected using self-completed questionnaires. Partial Least Squares (PLS) was used to test the causal relationships between travel motivations, perceived value, and behavioral intentions. The results from PLS regression analysis show that travel motivation and perceived value have positive impact on behavioral intention of international tourists to visit Malaysia, while satisfaction mediates the relationship, indicating its importance. This study should help policy makers and service providers in the tourism sector to develop a framework for formulating appropriate marketing strategies to continue attracting international tourists to Malaysia. Managerial implications of the study as well as future research directions in the area are discussed.

Keywords: Travel Motivation, Perceive Value, Satisfaction, Behavioral Intention.

INTRODUCTION

A total of 25.03 million tourists arrived in Malaysia in 2012, an increase of 1.3% from 2011, and receipts climbed to RM 60.6 billion, compared to RM 58.3 billion the previous year, which was an increase of RM 2.3 billion or about 4% more than in 2011. Over the last few years, Malaysia has given more attention to this increasingly important industry through its vision to make the tourism industry a prime contributor to the socio-economic development of the nation, and aims to market Malaysia as a premier destination of excellence in the region. Malaysia has even identified tourism as one of the 12 National Key Economic Areas (NKEA) to drive the nation's economic growth. A number of tourism development projects have been put in place in order to achieve 36 million tourist arrivals and RM 168 billion tourism receipts by 2020.

However, other emerging security threats and the recent chain of events in Malaysia, such as the invasion of Sabah by the Royal Army of Sulu, and street protests after the 13th General Election, are sure to affect the industry in certain ways. The situation in the whole region also influence the influx of tourists to this part of the world, including the hazardous haze conditions due to land and forest fires in Indonesia, the H7N9 (birdflu) outbreak in Vietnam, climate changes that creates droughts as well as floods in Bangladesh, bloodshed in Myanmar, brutal crimes against women in India, and not forgetting the earthquakes, tsunamis and tremors in Indonesia and Japan.

As the Malaysian global manufacturing index is expected to be contracting further due to persistent external headwinds from Europe and China's poor growth, as well as, a weaker business environment and rising cost to

the country's manufacturing industry, the manufacturing sector has been hit badly with news of downsizing aplenty. Malaysia's effort to inject funds into its economy now turns to the service sector, with tourism being a key player, hence the critical role it plays in stabilizing the country's economy. It is fair to assume that these issues can act as sentiments that highly influence potential tourists' perceptions of Malaysia as an attractive and safe destination.

Malaysia needs to make sure that its tourism industry can continue to contribute to the nation's economy vis-à-vis the uncertainties, threats and challenges abound. As the tourism industry has proven to have a positive economic impact towards the country, notwithstanding the increase in employment opportunities in the tourism sector and foreign exchange earnings, research work in areas that will lead to business sustainability should be encouraged. This highlights a critical need to study the tourists thoroughly and try to effectively understand their behavioral intention, travel motivation, perceived value and satisfaction towards Malaysian hospitality industry.

Tourism literature generally looks at behavior of tourists. Therefore, tourists are subject of investigation in terms of their preferences to visit certain destinations as knowledge of their travel motivations and perceived value and its association with destination selection plays a critical role in predicting future travel patterns. Most studies, originate from the field of consumer behavior in Marketing. The study on consumer behavior is complex due to its intrinsic characteristics, such as intangibility, inseparability, heterogeneity and perishability (Zeithaml, Parasuraman & Berry, 1985). However, tourist behavior is particularly complex because the final decision of patronizing tourist services and

destinations presents distinctive aspects (Seabra, Abrantes & Lages, 2007). First, the acquisition process has a strong emotional component for consumers. Second, purchasing is often the culmination of a long process of planning, choice, evaluation and assessment of alternatives by a large number of people. More importantly, this intangibility and inseparability of tourist services creates uncertainty and perceived risk in the consumer's mind (Wong & Yeh, 2009). Tourists tend to acquire a large quantity of information and anticipate the consumption, creating images and expectations before they commit themselves to a destination.

Tourists' behavioral intention

Tourism destinations, activities, and programs can be considered products, and tourists may revisit or recommend travel destinations to other potential tourists such as friends or relatives. The willingness of tourism consumers, or tourists, to recommend them and partake in positive word-of-mouth helps tourism managers assess their management strategies. Repeat visitation has been used as indicator of the positive perception of the destination, with repeat purchase indicating a positive attitude towards the product. Furthermore, loyal tourists are more likely to revisit tourism destinations, indicating a positive behavioral intention of the tourists.

A review of the literature depicts that researchers in the field of tourism have often interpreted behavioral intentions as the intention to revisit/repurchase and willingness to recommend the tourism product to others. Travel destinations can be perceived as a product which can be resold (revisited) and recommended to others, including friends and family who are potential tourists (Yoon & Uysal, 2005). Homburg & Giering (2001) measure the 'future behavioral intention' construct by

using two indicators: the intention to repurchase and the intention to provide positive recommendations. Another study by Boulding, Kalra, Staelin & Zeithaml (1993) affirmed that an indicator of favorable post-purchase behavioral intentions is positive word of mouth of the product to others. Reicheld & Sasser (1990) also regarded recommendation of the product to others as a specific indicator of future behavioral intent. Furthermore, Beeho & Prentice (1997), find that tourists who had a satisfactory experience are more likely to recommend the destinations they have visited to friends and relatives.

In this study, behavior intention is defined as a potential international tourists' anticipation of future trip to patronize Malaysian hospitality industry. As such, behavioral intention seems to be an important concept in understanding tourist choice of tourism products and future motives and behavior. From this perspective, any attempt to understand behavioral intention will bring further contribution to the Malaysian tourism knowledge base.

Tourists satisfaction

Research has shown the connection between satisfaction and behavioral intention, hence tourists who are satisfied with their travel experience at a specific destination is a determinant for them to revisit the place. In a study by Spreng, Harrel & Mackoy (1995), they instigate that it is important for service providers to produce satisfied customers as it will affect their repurchase intention and positive word of mouth. The relationship between customer satisfaction and future intentions has also been identified by Bearden & Teel (1983), but there is uncertainty as to the basic notion of whether customer satisfaction is a necessity or a sufficient condition for future intention.

Beerli & Martin (2004) define motivation as 'the need that drives an individual to act in a certain way to achieve the desired satisfaction'. Such drives can include intrinsic (push) or extrinsic (pull) factors (Crompton, 1979). Pull motivations represent the appealing attributes of the destination to be visited, while push motivations are each individual's inner quest to achieve something favorable. Yoon & Uysal (2005) concluded that travel motivation affects feelings of satisfaction, which in turn, influence future purchase behavior, and tourist satisfaction acts as the mediator variable between motivations (pull and push) and destination loyalty.

Rust & Oliver (1994) note that value, is an encounter-specific input to satisfaction, which implicates the positive link between perceived value and satisfaction. Lapierre, Filiatrault & Chebat (1999) also find empirical support for the positive effect of perceived value on customer satisfaction. On a study by Jen, Tu & Lu (2011), they found that perceived value plays an important role in predicting satisfaction and behavioral intentions.

Travel motivation

Travel motivation model has been well cited in the tourism literature (Yoon & Uysal, 2005; Lam & Hsu, 2006). However, tourist motivation is far from simple and stable as people can choose a destination with a motive of relaxation in a pleasant and safe place combined with visiting a local heritage, while another person may change his preferences and motives for choosing a destination as he moves through the family life cycle from a single-career person to a more family-oriented person. However dynamic and variable it is, motivation remains the impetus behind every travel (Ramkissoon & Uysal, 2011). And motivation may also have a strong influence on revisit intentions as reported by Qu & Wong (1999) in their study of

Hong Kong cruise travelers, whose motivation present an important determinant of their intentions to indulge in cruise travel again in the future. These results conformed to the study by Rittichainuwat, Qu & Leong (2003), that conclude travel motivation is an important factor influencing travelers to revisit destinations.

Perceived value

The connection between perceived value, travel satisfaction and behavioral intentions has been debated in the services marketing literature. According to Gallarza & Saura (2006), understanding consumer value is important as it provides insights for the marketing researchers' value concept. While it is contended that value has a direct impact on how satisfied customers are with a supplier (Anderson et al., 1994) and that satisfaction depends on value (Ravald & Grönroos, 1996), little attention has been paid to customer value in evaluating services (Lemmink, Ruyter & Wetzels; 1998).

It has been proposed that behavioral intentions are determined in part by perceived value (Bolton & Drew, 1991). In making the decision to return to the service provider, customers are likely to consider whether or not they received 'value for money'. Further, it is possible that customer satisfaction may be based primarily on the service experience (i.e. service quality dimensions) and that perceived value is more critical with respect to behavioral intentions of the customers.

From a service marketing perspective, customer value is a critical element in consumer's consumption and decision making behavior (Williams & Soutar, 2009). Though the customer value research has emerged as a broad and dynamic body of knowledge, much of the research is directed on retail products

(Sweeney, Soutar & Johnson, 1999). In addition, there is also very limited empirical research done to examine the relationship between value and satisfaction in the Malaysian tourism context. As such, it is proposed that perceived value contributes directly to customer satisfaction which, in turn, leads to behavioral intentions.

The Perceived Value model, as proposed by Zeithaml (1988) suggests that perceived value positively affects consumers' purchase intentions. Subsequent researchers also provide empirical evidence to support the link between perceived value and behavioral intentions (Cronin, Brady & Hult, 2000; Jen & Hu, 2003).

Accordingly to the above considerations, the following research hypotheses are formulated:

H1: *Travel motivation influences tourists' satisfaction.*

H2: *Perceived value influences tourists' satisfaction.*

H3: *Tourists' satisfaction influences the behavioral intention to patronize Malaysian hospitality industry.*

H4: *Travel motivation influences tourists' behavioral intention to patronize Malaysian hospitality industry.*

H5: *Perceived value influences tourists' behavioral intention to patronize Malaysian hospitality industry*

H6a: *The relationship between tourists' motivation and the behavioral intentions to patronize Malaysian hospitality industry is mediated by tourists' satisfaction.*

H6b: *The relationship between perceived value and the behavioral intentions to patronize Malaysian hospitality industry is mediated by tourists' satisfaction*

Figure 1 presents our conceptual model. The model indicates that travel motivation

and perceived value affect satisfaction which in turn affects behavioral intention.

Insert Figure 1: Research Model

METHODOLOGY

The target population comprises international tourists visiting Malaysia. In order to achieve the aim of the study, which is to measure the travel motivation, perceived value, satisfaction and behavioral intention of international visitors to Malaysia, data were collected via a self-completion questionnaire distributed at a few spots around the nation's capital, Kuala Lumpur. The questionnaire were adopted from various sources; travel motivation (Kau & Lim, 2005; Yoon & Uysal, 2005), perceived value (Hutchinson, Lai & Wang, 2009; Jen, Tu & Lu, 2011), satisfaction and behavioral intentions (Yoon & Uysal, 2005). The questionnaire comprises of five sections, designed to analyze tourist motivations, perceived value, travel satisfactions and behavioral intentions. Section 1 enquired about the basic background data on the tourist, such as demographic information: gender, age, marital status, country of residence, purpose of visit, duration of visit, travel preferences and number of trips to Malaysia.

Section 2 consists of questions on travel motivation that were assessed by factors that include safety, religion, knowledge, escape/relax, adventure/excitement, social, historical/cultural. Section 3 consists of nine questions on perceived value. Section 4 looked to measure the respondents' satisfaction level. Four different questions were posed to apply consumer satisfaction theories into actual satisfaction with travel experiences in Malaysia. Section 5 draws on questions about the tourist behavioral intention, consisting of their intention to take another vacation to Malaysia, and whether the tourists will suggest Malaysia to

friends/relatives as a potential vacation destination. All questions in all sections use 4-point Likert-type scale, following those carried out by Yoon & Uysal (2005), Baloglu & Uysal (1996) and (Guzman, Leones, Tapia, Wong & Castro, 2006). A four-point Likert-type scale is used to avoid central tendency effects (Guzman et al., 2006, p864). Garland (1991) found that social desirability bias, rising from respondents' desires to please the interviewer or appear helpful or not be seen to give what they perceive to be socially unacceptable answer, can be minimized by eliminating the mid-point ('neither..nor' uncertain, etc) category from Likert-scales.

Data were collected using a random sampling method. Consequently, a total of 104 usable questionnaires were collected. Data were analyzed using Partial Least Square (PLS) to study the relationship between the constructs.

RESEARCH RESULTS

This section begins with the international tourists' demographic profile. The tourists who participated in this study composed of 56.7% male and 43.3% females. In terms of age, the majority of the tourists are between 20-29 years old (52.9%), 23.1% are in the age group of 30-39, and tourists between 40-49 comprise of 11.5%. The remaining 7.7% and 4.8% are among those more than 50 years old, and under the age of 20 respectively. 42% of the tourists were single, 34% were married or in a relationship without children, 19% were married with children, and 5% were divorcees. Nearly half of all tourists in the study were Europeans (48.1%), with England as the dominating market (14.4%), followed by Germany (10.6%) and Holland (9.6%). Most of the respondents were on a travel vacation (91%), with only 6 % travelling solely for anniversary/ honeymoon celebration purposes, and 3%

were visiting family and friends. More than half of all tourists stayed in Malaysia for more than 7 days (66%), 28% stayed between 3-6 days, and 6% stayed between 1 to 2 days. 84.6% traveled together with families or friends, and 15% traveled alone. Most of the tourist (79.8%) visited Malaysia for the first time, and 10.6% have visited twice, and 3.8% and 5.8% visited three times and four times respectively.

Insert Table 1.

Assessment of goodness of measures

Model testing was conducted using partial least squares (PLS) analysis with the SmartPLS Version 2.0 (M3) software (Ringle, Wende, & Will, 2006). PLS was developed (Wold, 1985) as a general method for the estimation of path models involving latent constructs indirectly measured by multiple indicators. Chin (1998) depicted PLS as comprising two models: (1) a measurement model, also called the outer model, specifying the relationships between latent variables (LVs) and their associated observed or manifest variables (MVs); (2) a structural model, also called the inner model, relating some LVs to other LVs. By using an iterative estimation method that minimizes residual variance through the provision of successive approximations for the estimates of loadings and path parameters, PLS allows for the resulting component score of each latent variable to be based on the best estimated indicator weights, consequently maximizing the variance explained for the dependent variables.

Following the recommendations by Chin (1998), the PLS model is analyzed in two stages, testing first the adequacy of the measurement model and then assessing the structural model.

Convergent validity, discriminant validity, and reliability measure the goodness of the items and they will be assessed before testing the hypotheses.

Convergent validity refers to the extent to which the items measuring the same concept are in agreement (Ramayah, Wai & Boey (2011). According to Hair, Black, Babin & Anderson (2010), convergent validity can be assessed by using factor loadings, average variance extracted (AVE), and composite reliability (CR). Table 1 shows the loadings for all items that exceeded the recommended value of 0.5 (Hair et al. 2010). The AVE is in the range of 0.5028 and 0.6358. The AVE measures the variance captured by the indicators relative to measurement error, and it should be greater than 0.5 to justify using a construct (Barclay, Thompson, & Higgins (1995). The CR values for all constructs are above 0.7 as suggested by Fornell & Larcker (1981) indicating an adequate level of convergent validity.

The Cronbach's alpha coefficient and CR are used to assess the inter-item consistency of the measurement model. From Table 2, all alpha values are above 0.6 as suggested by Nunnally & Bernstein (1994). The CR values ranged between 0.8386 and 0.9085, which is greater than 0.7, and these values are considered acceptable by Fornell & Larcker (1981). Therefore, we can conclude that the measurement model is valid and reliable.

Discriminant validity indicates the extent to which a given construct differs from other constructs (Roldán & Sánchez-Franco, 2012). It can be assessed by examining whether items were loaded strongly on their own constructs in the model. In addition, the AVE shared between each construct and its measures should be greater than the variance shared between the construct and other constructs (Ramayah et al. 2011). Table 3 shows the correlations for each construct are less than the square root of the AVE of the constructs, indicating adequate discriminant validity.

Insert Table 2: Results of Measurement Model

Table 3: Results of discriminant analysis

Table 4: Result of hypothesis testing

Table 5: Summary of mediating effect test.

The direct effects of tourists' motivation, perceived value and satisfaction on behavioral intention were tested. Table 4 shows that tourists' motivation ($b=0.2330$, $p < 0.05$) and perceived value ($b=0.4030$, $p < 0.001$) have positive and significant effects on satisfaction. These results support H1 and H2. The direct effects of perceived value ($b=0.2379$, $p < 0.001$) and satisfaction ($b=0.6357$, $p < 0.001$) on behavioral intention also shows positive and significant effects. These results support H3 and H5. The direct effect of tourists' motivation ($b=0.0125$, not significant) on behavioral intention is not supported (H4).

The analytical approach described by Preacher & Hayes (2008) and Taylor, MacKinnon & Tein (2008) to test our mediation hypotheses (H6 and H7) have been applied. The indirect effects are specified and contrasted with the mediator, namely satisfaction (Table 5). The total effects and direct effects of the independent variables (tourists' motivation and perceived value) on the dependent variable (behavioral intention) were examined. Following Williams & MacKinnon's (2008) suggestions, we chose the bootstrapping procedure to test the indirect effects. Chin (2010) proposed a two-step procedure for testing mediation in PLS: (1) use the specific model in question including both the direct and the indirect paths and perform N bootstrap resampling and explicitly calculate the product of the direct paths that form the indirect path under assessment. (2) Estimate the significance using percentile bootstrap (Williams & MacKinnon, 2008). This generates a 95% confidence interval (CI)

for the mediator: SAT in H6 and H7. If the interval for a mediation hypothesis does not contain zero, it means that the indirect effect is significantly different from zero with 95% confidence. Table 5 shows that tourists' motivations have a significant total effect on their behavioral intention (BI). When mediator (satisfaction) is introduced, tourists' motivation no longer has a significant direct effect on BI. This means that satisfaction fully mediates the influence of tourists' motivation on their behavioral intention, (H6a) (Baron & Kenny, 1986). Indeed, as previously mentioned, H4 (TM→BI) is not supported. However, support is found for H6b, which means that the indirect effects of perceived value on behavioral intention included in the research model are significant. Consequently, these analysis shows that satisfaction partially mediates the relationship between tourists' perceived value and their behavioral intention (H6b).

DISCUSSION OF FINDINGS

While we set out to find the relationships between tourists' motivation, their perceived value of the travel destination, their satisfaction towards the travel destination and their behavioral intention after the travel experience, the findings of this study provide enlightenment to the antecedents of tourists' behavioral intention towards Malaysian travel and tourism industry.

Both, tourists' motivation to visit Malaysia and their perceived value towards Malaysia as a tourism destination, have significant effects on their satisfaction during their visit. Such findings indicate the crucial roles of these factors in influencing tourists' satisfaction. While perceived value could easily be seen influencing satisfaction as reflected in the findings by Sadeh, Asgari, Mousavi & Sadeh (2012), understanding the link between motivation and satisfaction may require further

deliberation. If motivation is seen as a product of expectation, then perhaps we could accept that tourists will be motivated to visit Malaysia if they assume that our tourism industry is able to fulfill their expectations, and fulfilling these expectation will lead to varying degrees of satisfaction. This argument is based on a number of studies on education, in which a research concerning students' motivation found that intrinsic motivation has a greater impact on students' satisfaction than extrinsic motivation (Deci, Koestner & Ryan, 1999). Intrinsic motivation is evident when they desire to learn simply because apart from the fact that it interests them, they also expect it to be important for their future. Hence, expectation that a subject matter is important shall motivate students to learn about it and the outcome is likely to be satisfaction. Extrinsic motivation, on the other hand, is a response to expectations of either incentives (points, prizes) or disincentives (threats, punishments). Unlike the satisfaction acquired through intrinsic motivation, motivation to learn solely because one expects to obtain incentives or to avoid disincentives is unlikely to generate similar feelings of satisfaction. This corresponds with the research on customer satisfaction during a guided package tour service encounter by Bowie & Chang (2005), in which expectations, customer on-tour attitude and behavior and equity were identified as affecting customer satisfaction during the service encounter.

To illustrate this point from the marketing tourism perspective, there will be varying levels of satisfaction for two foreign tourists, one who may only want to visit Malaysia in order to be able to take pictures in front of important landmarks / buildings for the purpose of showing off to others, and one who visits places to connect to new people and cultures and finding Malaysia as a perfect melting pot of

racial and cultural diversity. The latter would possibly be far more satisfied in this instance.

The findings also confirmed the influence of perceived value on behavioral intentions to patronize Malaysian hospitality industry. This is consistent with the findings by Jen et al (2011). From a managerial viewpoint, Malaysian hospitality providers who want to get favorable behavioral intentions should make sure that it can increase international tourists' perceived value of their services. This may be achieved through informative promotional campaigns that portray Malaysia as a credible tourism destination to the international tourist market. With concerted effort from the Malaysian authorities, the Malaysian tourism industry players, as well the Malaysian public at large, it should not be hard for international tourists to experience the very same things that are proclaimed in the advertisements and promotional campaigns on Malaysian tourism.

Travel motivation does influence tourist behavioral intentions to patronize Malaysian hospitality consistent with Yoon & Uysal (2005) and Ramkissoon & Uysal (2011), but concurs with the findings by Beeho & Prentice (1997) that tourists who had a satisfactory experience are more likely to recommend the destinations they have visited to friends and relatives. This emphasizes the importance of tourists' satisfaction to lead towards favorable behavioral intention. Therefore, Malaysian hospitality providers who want to get favorable behavioral intentions by providing better services should make sure that the service can increase international tourists' satisfaction. Based on extensive work done by the School of Hotel and Tourism Management at the Hong Kong Polytechnic University, the Malaysian tourism industry should be able to apply the PolyU Tourist Satisfaction Index as a

general guideline aimed at ensuring satisfaction amongst international tourists who patronize our tourism services. The index is a weighted average of the six service sector indices, indicating their respective contribution to the overall index. In 2012, the attractions sector is the largest contributor to the overall index, making up as much as 30%, followed by restaurants (18%), transportation (17%), immigration (16%), hotels (12%) and retail shops (7%).

In the 2012 PolyU Tourist Satisfaction and Tourism Service Quality Indices published in March 2013, South and Southeast Asian countries score the highest tourist satisfaction index of 82.32 in transportation, followed by immigration (79.99), attractions (77.96), restaurants (75.72), retail shops (75.13) and hotels (74.33). Compared to the previous year, the scores for this market also increase in all six service sectors, with immigration earning 9.95 points more, followed by restaurants (8.00), transportation (7.17), hotels (6.20), retail shops (4.39) and attractions (3.98). As part of the same region, Malaysia should also enhance or improve on these sectors to secure high levels of satisfaction amongst international tourists visiting the country.

Finally, his research found that satisfaction only serves as a partial mediator on the relationship between perceived value and behavioral intentions. Thus, it should be noted that there are other factors that mediate or possibly moderate the relationship between perceived value and behavioral intentions. To date, considering the author's limited knowledge, no research has explored the moderating effect of satisfaction on the relationship between perceived value and behavioral intentions. This study therefore presented a fruitful line of investigation and made a significant contribution to the existing reservoir of knowledge on perceived value and behavioral intention

and reinforces the importance of the concept in studies in Malaysian tourism.

CONCLUDING REMARKS

Several factors contributed to the strong growth in the tourism industry worldwide for the past few years. One of them is the strong air transport market, with the expansion of low cost airline services around the world, and the recent emergence of long-haul low-cost airlines, making air travel reasonably priced and accessible to an increasing number of people. The growth of the middle class in the developing countries, backed by liberalizing policies promoting mobility of travelers, contributed to the growth of the tourism industry as well. Moreover, as tourism has been recognized as contributing positively to nations' economic, environmental and social wellbeing, such as improvement in income and standard of living, employment opportunities, investment and development of infrastructure; many developing nations increase their investment in the marketing and promotion of their tourism industry to realize the fullest growth potential in this sector.

The model and related findings led to some important theoretical and managerial implications. This study tested a model integrating concepts of travel motivation, perceived value, travel satisfaction and behavioral intention to patronize Malaysian hospitality industry, which provided a comprehensive understanding of travel motivation, perceived value and travel satisfaction as salient factors influencing behavioral intentions to patronize Malaysian hospitality industry. The results of this study validate the research hypotheses, except that tourists' motivation has any influence on behavioral intention.

Although the contributions of the study are evident, it is still fraught with

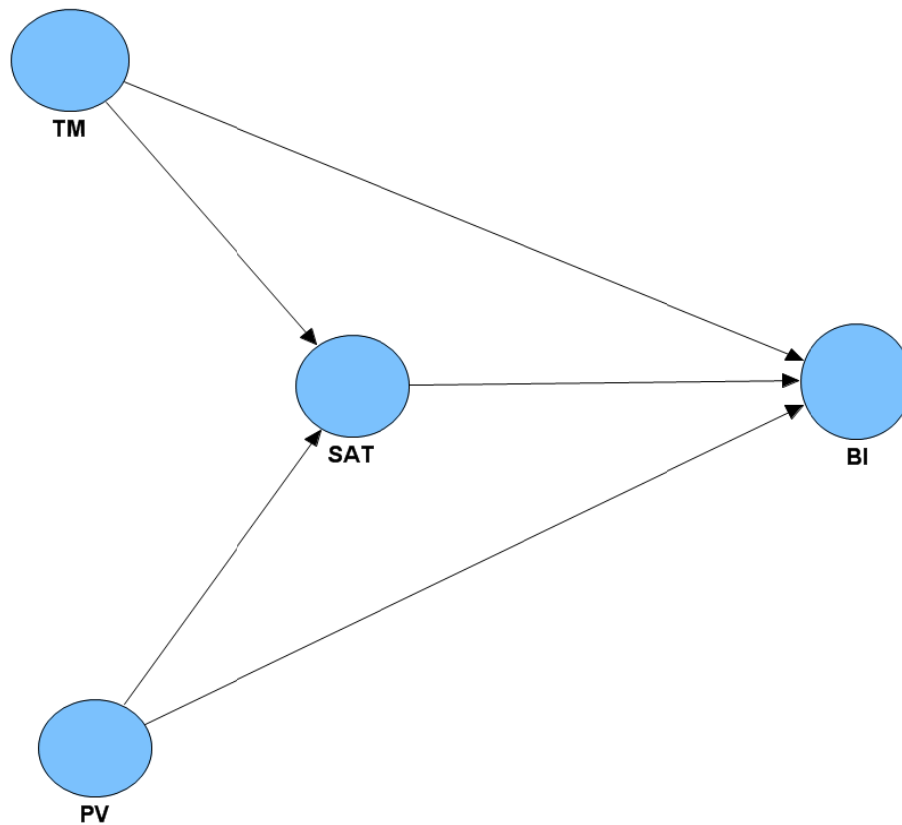
several limitations. The model only incorporates three determinants of behavior. Future studies should consider integrating other potential determinants of behavioral intentions. For instance, the influence of information searches on behavioral intention to patronize a destination. The context-specific nature of the study can also limit generalization of the study findings. Researcher should aim at further testing of the model in other destinations apart from Kuala Lumpur. Future researchers should also test the model using tourists consuming specific products or services, such as tourist consuming cultural products or destinations, tourists consuming medical tourism, tourists catching specific events, such as the Formula 1 race or the Thaipusam experience at Batu Caves, or tourists consuming eco-tourism. Such approach in future studies could help to confirm the findings of the study. The study can also test the model using domestic tourists as well. It is also possible that with a different sample of tourists, the magnitude and direction of the proposed relationships can vary and further examined. These aspects to future studies in the area will further enlighten researchers on tourists' behavior as well as provide clearer relationships between the different constructs in the model.

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Figure 1: Research Model**Table 1: Demographic characteristics of the sample and journey features**

Characteristics	Percentages
Tourist's gender	Male (56.7%), Female (43.3%)
Tourist's age	Under 20(4.8%), 20-29 (52.9%), 30-39 (23.1%), 40-49(11.5%), 50 and above (7.7%),
Tourist's marital status	Single (42.3%), Married/In relationship with child (19.2), Married/In relationship without child (33.7%), Divorced (4.85)
Country of residency	England (14.4%), Australia (10.6%), Germany (10.6%) Holland (9.6%), France/ Switzerland/ Argentina (4.8% each) , China/Canada/Denmark (3.8% each), Italy (2.9%), USA/Iran/Somalia/Taiwan/Morocco/Lithuania/New Zealand/Ireland/Bangladesh (1.9% each), Egypt/Japan/Singapore/Greece/Kuwait/Korea/Belgium/Russia/Portugal (1.0 each)
Purpose of visit	Holiday (91.3%), Honeymoon/Anniversary (5.8%), Visit Family and Friends (2.9%)
Duration of visit	1 - 2 days (5.8%), 3 – 6 days (27.9%), more than 7 days (66.3%)
Travel companion	Alone (15.4%), with Families or friends (84.6)
Trip to Malaysia	First time (79.8%), Twice (10.6), 3 Times (3.8%), 4 Times (5.8%)

Table 2: Results of measurement model

Variable/Indicators	Loadings	CR	Cronbach's Alpha	AVE
TM		0.9085	0.8785	0.6254
Q52	0.8054			
Q53	0.8826			
Q54	0.8242			
Q55	0.7967			
Q63	0.7811			
Q72	0.6329			
PV		0.8758	0.8363	0.5028
Q77	0.6616			
Q78	0.7355			
Q79	0.7739			
Q80	0.6463			
Q81	0.7556			
Q83	0.6829			
Q84	0.6979			
SAT		0.8451	0.7557	0.5772
Q86	0.7663			
Q87	0.7365			
Q88	0.7949			
Q89	0.7397			
BI		0.8386	0.7161	0.6358
Q90	0.6966			
Q91	0.8567			
Q92	0.8295			

Table 3: Results of discriminant analysis

	TM	PV	SAT	BI
TM	0.7908			
PV	0.2916	0.7091		
SAT	0.3505	0.4710	0.7597	
BI	0.3047	0.5409	0.7521	0.7974

Diagonals (in bold) represent the square root of average variance extracted while the other entries represent the correlations.

Table 4: Result of hypothesis testing

Hypothesis	Beta	Std error	t-value	Decision
H1 (TM→SAT)	0.2330	0.0940	2.4794	Supported *
H2 (PV→SAT)	0.4030	0.0863	4.6672	Supported***
H3 (SAT→BI)	0.6357	0.0630	10.0879	Supported***
H4 (TM→BI)	0.0125	0.0677	0.1849	Not supported
H5 (PV→BI)	0.2379	0.0711	3.3449	Supported***

*p<0.05, **p<0.01, ***p<0.001

Table 5: Summary of mediating effect tests

Total effect of TM on BI		Direct effect of TM on BI		Indirect effects of TM on BI	
Coefficient	<i>t</i> value	Coefficient	<i>t</i> value	Coefficient	<i>t</i> value
0.315	2.288	0.0125	0.1849	H6a(TM→SAT→BI)	0.0490
					0.7160
				Percentile bootstrap 95% Confidence Interval	
				LL	UL
				0.1109	0.4144
Total effect of PV on BI		Direct effect of PV on BI		Indirect effects of PV on BI	
Coefficient	<i>t</i> value	Coefficient	<i>t</i> value	Coefficient	<i>t</i> value
0.560	9.0530	0.2379	0.3449	H6b(PV→SAT→BI)	0.2400
					3.4960
				Percentile bootstrap 95% Confidence Interval	
				LL	UL
				0.1900	0.4212

The Effectiveness Of Communicating Customer Value

Dr Sławomir Czarniewski

University of Finance and Management in Białystok
Poland

Abstract

The process of communicating customer value not only provides buyers with awareness of what products and services they can buy, but also of the benefits of the purchase for them. The communication process aims to create and strengthen attitudes among buyers, leading to a favorable reception of products (services) as well as a change of attitude from neutral to positive – creative. The results of the research on the effectiveness of selected aspects of the traditional process of communicating customer value are presented in this paper. Author presents the effectiveness of the traditional process of communication in Poland based on the conducted study. This analysis was carried out on selected Polish customers in 2012. Reflections contained in the paper do not have definite characteristics and should be treated as an opinion in the discussion.

Keywords: *traditional communication; advertising; communicating customer value; effectiveness.*

INTRODUCTION

As is apparent from previous discussion and analysis of traditional communication, it is a widely used form of communicating customer value. Most customers have virtually daily contact with various forms of traditional communication, whether on television or on the radio, or even in the form of informational advertising material. Therefore, it is considered a tool for influencing customers in every area of their lives. Of course, the final act of purchasing a product does not only depend on the appearance of traditional forms of advertising. To a large extent, it is determined by the behavior of the buyer's market, and thus social, cultural, personal and psychological factors. A company's success and the satisfaction of its clients are directly related to the understanding of consumer behavior when making a purchase by the company's marketing experts, the people responsible for seeking out new market opportunities. Therefore, advertisers are forced to constantly seek new and more effective ways to reach out to the hearts and minds

of customers and acquire knowledge about their perception and attitude towards traditional forms of communication.

RESEARCH METHODOLOGY

The basis for the preparation of the paper was the conduction of an in-depth and comprehensive study on the effectiveness and efficiency of communicating customer value. This included the analysis of available secondary data from various institutions involved in marketing communications, both in scientific and commercial applications, as well as the analysis of primary research conducted on a regional basis on enterprises operating on the Polish market, and among the recipients of marketing communications.

The aim of the study was to identify consumers' attitudes to traditional forms of communication and to assess its impact on the decision-making process of buyers. Moreover, the aim of this study was to answer the question of whether, in the opinion of consumers, the traditional system of communicating values is effective.

The study used a typical case of non-random sampling of the population of Podlasie and Warmia-Mazury provinces, relying on a subjective and "comfortable" choice of individuals to be a part of the study group in hopes of getting the broadest and fullest set of information.

The research tool used in the study was a questionnaire consisting of 20 questions about the process of communicating customer value, most of them closed questions. It was also the main research method in the project. Methods of data analysis were based mainly on the creation of tables, which served as a way to compare various features of interest and were used to present the data.

Research was conducted through direct interviews taking place between March - June 2012 in the provinces of Podlasie and Warmia-Mazury in Poland. The results of the research on the effectiveness of selected aspects of the traditional process of communicating customer value are presented here.

Sample selection was implemented by the judgmental sampling method, including stratification criteria enabling behavior representativeness of the sample in terms of basic statistical characteristics (gender, age, education, place of residence). This resulted in the distribution of the sample as shown in Table 1.

The study sample consisted of 300 people, of which 156 (52,0% of all surveyed clients) were female and 144 (48,0%) - male. As far as the age of respondents, the largest group constituted of those between 35-44 years of age (28,3% of all surveyed clients). The study included 78 people (26,0% of all surveyed clients) in the 25-34 age group and 59 people (19,7% of all surveyed clients) in the 45-54 age group. Those between 18-24 years of age were 17,3% of all

surveyed clients, and the smallest group were those aged 55 and over.

Respondents were also diverse in terms of education (higher – 23,0%, post secondary – 42,3%, vocational – 24,0%, primary – 10,7%). Thus, the largest number of consumers surveyed was those with post-secondary education.

CONSUMER ATTITUDES TOWARD TRADITIONAL COMMUNICATION

The first part of the study was concerned with the attitudes of respondents to traditional communication, and their views on the traditional process of communicating customer value. Table 2. shows the attitude of market communication recipients to traditional forms of communication.

The majority of consumers surveyed (55,7%) said that they do not like advertisements and try not to watch/read/listen to them. This fact may on the one hand indicate their low susceptibility to traditional communication, and on the other hand their fatigue with the accumulation of advertisements in their surroundings. In this context, it should be noted that the traditional process of communication is often not very effective. A clear negative attitude towards traditional communication was declared by 7,7% of consumers surveyed (Table 2).

Furthermore, it appears that women are bigger supporters of traditional communication. Analysis shows that men are more likely to declare a negative attitude towards traditional communication, while a higher percentage of women indicated a neutral attitude.

Representatives of both of these groups equally diminished. Summing up, traditional communication is becoming increasingly, at least in the declarations of respondents, a neutral background noise one hears, which is neither irritating nor

delightful - it just does not get paid attention to.

In view of the multitude of different communications media, the public may feel tired and irritated by them, so the next research question was to indicate the most annoying forms of communication.

According to the declarations of surveyed consumers shown in Table 3., the most agreeable forms of communication were outdoor and press advertising. Next were radio, internet, post and television advertisements. The most annoying form of communication was found to be advertising with the use of the telephone as a medium (38,7% of all surveyed clients), which can be characterized as intrusive and an invasion of privacy and time of recipients.

Another important issue when analyzing consumers' attitudes to traditional communication is to assess its degree of reliability and accuracy. In order to make such an assessment, respondents were asked to respond to certain statements. The results are presented in Table 4.

The results presented in Table 4. indicate that respondents generally do not trust the information firms are trying to convey to them through traditional communication. According to the survey, consumers believe that communication messages do not show items as they are in reality, and the information contained in them is untrue. This response was given by 57,3% of surveyed consumers. Only a minority of respondents agreed that most advertisements are reliable (13,7 %) and contain much truth (29,0%).

In connection with such feelings to the credibility of advertising, the next question asked the people participating in the study: "What is your attitude towards advertised products?" The answers to this question are as follows:

51,0% of consumers surveyed are convinced that if a company advertises its products, it must mean that it has good financial standing (Table 5.). Indeed, consumers realize that the creation and emission of advertisements is associated with very high costs incurred by the company,

more than 27,7% of respondents approached the question very critically by replying that if a product has to be marketed, it must also mean that it is of low quality and has poor sales results, and the company is trying to get rid of it in this way,

only 21,3% of consumers surveyed believed that if a company invested in the advertisement of the product, then the product must be really good.

The third question, connected to the former two, was about respondents' position concerning the exploitation of consumers' inexperience in traditional communication (Table 6.). Analysis of these responses leads to the conclusion that a majority of consumers surveyed (53,0%) believes that advertisers mislead customers, taking advantage of their inexperience and ignorance about specific products. As it turns out, consumers are increasingly more aware of the use of communication mechanisms to manipulate people and persuade them to make a purchase.

The next research question was to determine which elements (aspects of communication) are the most important in the traditional process of communicating customer value (Table 7.).

Stimuli received by sight are the easiest to remember. In the opinion of consumers surveyed, image ranks first in terms of importance. This element was

indicated by as many as 78,0% of customers surveyed. Words were indicated as the second most important element of communication. It is words and the information provided by them that play an important role in the transmission of a communication, and they are the most important when it comes to the consumer's decision to purchase a particular product. The fact that music is only a supplement to traditional communication and does not perform a significant role was confirmed by the research results, which showed that music is in third place in terms of importance.

THE IMPACT OF TRADITIONAL COMMUNICATION ON THE BUYING BEHAVIOR OF CONSUMERS

There is no doubt that the process of communicating customer value often has a direct impact on the decision-making process for the purchase of a specific product. Table 8. presents the factors that customers take into account when deciding to purchase a particular product.

Based on the data in Table 8., the primary source of information that customers take into account when considering the purchase of a particular product is his family / acquaintances / friends. This source - in the opinion of consumers surveyed – is in first place in terms of importance. So said 81.0% of all surveyed clients. Dealers and sales representatives are second in terms of importance. This response was given by 75,3% of consumers. The third position indicated was the Internet. Traditional market communication was only in fourth and fifth place. This fact may indicate that a significant portion of customers do not take into account traditional communication in the decision-making process for the purchase a particular product. In this context, it should be noted that the standard market communication system is in many cases not very effective.

Table 9. presents research results concerning attempts by consumers to confirm information about products from other sources. The data shows that a significant proportion of clients (36,3% of all respondents) attempt to confirm information about products from other sources from time to time, and 18,7% of respondents say that they do it very often. However, 16,3% of consumers surveyed never made attempts to confirm information about products from other sources. Thus, the study shows that more than half of consumers surveyed try to verify information on products from other sources. This may indicate limited customer confidence in a single source of market information.

Table 10. presents customer feedback on the impact traditional communication has on making purchasing decisions. The data shows that a significant portion of consumers (40,3% of all surveyed clients) only occasionally buy products that have gained their interest through traditional advertising. Only 21,3% of respondents said that they are more likely to buy advertised products over others, and 3,3% of respondents indicated that they always only buy products which were advertised. Other results indicate clearly that the traditional system of communication does not actually affect customers' purchasing decisions. So say more than 35% of the consumers surveyed.

Advertisers have to use a wide range of techniques to attract the attention of consumers, enhancing the effectiveness of the advertisement of the product. One of these ways is to advertise the product using a person well known to the public (e.g. an actor or actress). One of the survey questions was devoted to this topic.

By analyzing the results presented in Table 11., it can be seen that more than

half of the respondents (50,3 %) considered the use of celebrities or of experts (for example, a dentist giving an opinion when advertising toothpaste) as an effective advertising technique when making a purchasing decision by consumers. This may involve the belief that if a famous person uses the product, or recommends it, it must be of really high quality and/or luxurious, and this aspect may encourage the purchase. A similar situation exists in the case of the use of an expert, because it convinces the public that if a product is supported by people who are experts in a particular field, it is worth having. Only 38,0% of consumers surveyed said that it had no effect on their purchasing decisions.

Another research query was to determine the types of products those surveyed buy most often under the influence of traditional communication (Table 12.).

The results presented in Table 12. indicate that the most common products purchased as a result of advertising are groceries (39,3% of all surveyed clients), cosmetics (21,0% of respondents) and cleaning products (19,0% of respondents). The least frequently purchased products as a result of traditional communication are products and services related to health care (1,7% of respondents), and services in the field of tourism and recreation (2,0% of respondents). Another item which, in the opinion of consumers surveyed, is rarely influenced by advertising is the purchase of a car. This seems understandable since it is a product that requires the largest expenditure on the part of the consumer, and the purchasing process takes quite a long time. This is not a product which belongs to the category of goods purchased under the influence of traditional communication; in this situation advertising can only serve an informational function so that the product appears in the

consciousness of the consumer. The group of products related to financial services, as well as appliances and electronics, were also ranked relatively low. This may result from a greater degree of complexity of these products, as well as the risks associated with the possibility of making a wrong decision. Consumers are probably guided more by rationality and want to compare the offers of different suppliers before making a purchase.

Another research topic was the issue of customer satisfaction with a product they had recently purchased under the influence of traditional communication, and the answer to this question is presented in Table 13. Of those who admitted to purchasing a product, only 34,7% of respondents said that it did not fulfill their expectations. The vast majority of consumers surveyed (65,3 %) were satisfied with their purchase, which may indicate that the advertisement of a product does not necessarily mean that the product is inferior, of low quality, or a company is having problems with selling it. This seems to be consistent with respondents' answers on the issue of consumer attitudes to advertised products, where over half of the respondents stated that they assume that a company conducting an advertising campaign is financially sound, which can be understood as not having problems with the sale of its products, which may be associated with the good quality of its products, and more than 21,0% of respondents admitted openly that these had to be good products.

The next issue researched was the tendency of respondents to purchase a product again (one which had been advertised through a communication system), if it had not met their expectations earlier (Table 14.). The results of the analysis show that nearly 82% of consumers surveyed would not be

willing to purchase the product again if it had not met their expectations. This demonstrates that consumers are demanding of the "sales market", and even if advertisers succeeded once in persuading a customer to buy the advertised product, if it then does not meet expectations, for example, in terms of quality, the consumer will not buy it a second time, even if the advertisement uses every technique to grab a customer's attention, or the effectiveness of the communication impact is increased. This also reveals the rationality of consumers who, although they are susceptible to traditional market communication, mainly depend on their experiences.

ECONOMIC AND NON-ECONOMIC EFFECTS OF COMMUNICATION

Market research is needed to reduce uncertainty and to collect data to develop an effective system of communication between a given company and its surroundings. It should also be noted that research is not an insurance policy, but only a tool to gain insight and better understanding of consumers and how the company should communicate with them. In fact, no amount of research will answer all questions concerning consumers and it also does not guarantee that the communication system will fulfill its function well in the market.

Each communication message can be assessed from three different perspectives: its attractiveness, efficiency and effectiveness. Measuring the efficiency and effectiveness of market communication is one of the largest problems that companies, as the dispatchers of advertising, have difficulty with. Communication efficiency is the ratio of financial benefits arising from the issuance of the message to the expenditures on specific promotional activities. Efficiency is closely linked to the continuity and effectiveness of market

communication research in earlier phases. Evaluation of the effectiveness of communication can affect a single message or an entire campaign. Too little or too much investment in communication reduces its effectiveness.

The economic effects of communication depend on the system of innovation (new value) offered to customers. Customers accept innovation through their purchase and positive feelings. Values created for customers are treated as innovation if (Dobiegała-Korona, 2010):

they provide the customer with real, substantial benefits, which the customer treats as

unique,

the offer is introduced at a time when its customers expect it; this is a critical feature,

since delaying the launch of innovation is associated with higher costs and lower profits,

unique customer value is available to those who are willing and able to pay for it at the

time of purchase and use of the innovation.

A measure of the effectiveness of communication is the amount of support given to a brand in a given period. When analyzing a long unit of time, such as a year, this has its own justifications. With a shorter unit - such as a week - common sense and research suggest that the effects of market communication are not limited to the broadcasting time. They persist for several days or even weeks.

In the process of evaluating the effectiveness of communication, costs are not taken into consideration. They are the subject of analysis in the study of efficiency. The effectiveness of

communication is achieved when the largest numbers of potential buyers pay attention to it, remember it, accept the arguments, make a purchase under its influence, and feel satisfaction from doing so.

It should be noted that the communication tools used are different in each stage of the product life cycle (Wiktor, 2001). This has direct or indirect consequences on the level of effectiveness of individual means of promotion. In the implementation phase, costs of communicating value to the customer are generally very high, which is associated with the need to create awareness of the product on the market. Promotional sales and canvassing are also used for this purpose. In the growth phase, communication tools are of less importance, due to the fact that the product is known and accepted on the market. In the maturity stage, the cost of communication, personal selling and sales promotion increases. In the decline phase, promotional sales continue to be used, while expenditures on traditional communication and personal sales are markedly reduced.

An important issue for the effectiveness of market communication is the degree to which ideas and means of communication are aligned with the nature of the advertised products and services (Weber, 2007). Research on the effectiveness of traditional communication focuses on two aspects: researching the effects of communication and the effect of communication on sales. Most companies try to investigate the effects of communication, that is, its potential impact on the awareness, knowledge or preferences of buyers. The aim of studying the effects of communication is to determine whether traditional communication is efficient. Assessment measures are elements that are not

directly related to measurable benefits, such as: coverage of advertisement impact, the frequency of reaching recipients, visibility, comprehension, acceptance of arguments, the favorability of consumer attitudes, and willingness to act according to its recommendations.

It is important to examine awareness of the product, the brand, and the company, among consumers. To do this, customers can be asked various questions, such as whether they can identify the product, repeat the advertising jingle, tell how many times they have seen the advertisement of the product, what product characteristics they can recall, what their feelings are about the advertisement, and what their previous and current relationship with the product is. In this indirect way, the effectiveness of the advertising campaign can be evaluated (Rupik, 2009).

The impact of market communication on the volume of sales is direct and / or indirect. Therefore it is important to answer the question of how product sales change due to increased brand awareness and consumer preferences as a result of communication. Effects of traditional market communication can be evaluated by the degree to which it has reached customers' consciousness. Determining the change in the relationship between the recipient of the communication and the product and company is also important.

FACTORS DETERMINING THE DEVELOPMENT OF MARKET COMMUNICATIONS

The development of the advertising market in Poland is best represented, aside from the change in number of agencies that provide communication services, by the increase in expenditure on traditional communication by advertisers. Analysis of the advertising market refers

only to services related to the emission of commercials in the mass media. This is because they are the only type where expenditure amounts are monitored.

For the years 1999-2009, expenditures increased almost threefold, from \$1741 million to \$4823 million (Table 15.). The years up to 2001 were particularly good for the advertising industry- advertising expenditure increased by more than 20% per year. It was a formative time for many foreign companies which were establishing their competitive position on the Polish market after the economic transition. Foreign companies treated expenditures on market communication during this period as an investment.

In subsequent years of the twenty-first century, there was a marked reduction in the rate of growth of advertising services - the rate of growth during this period did not exceed 11%, and in 2005 amounted to only 3%. A characteristic feature of this period was the reduction of advertising activity by foreign companies and the rise of Polish advertisers. In 2006-2008, there was an economic recovery in the advertising industry - in 2007, positive growth of 18% was reported. Yet in the following years, the symptoms of the economic crisis initiated by the meltdown of the financial markets were felt.

The rapid growth of spending on advertising - even though there has been a clear decrease in the economic activity of market communications in the last few years - has helped to increase its share of the gross domestic product. In 1999, the rate was only 1,06%, but by 2009, it reached the level of 1,55% (Table 15.)

The progress made in the advertising business focuses mainly on the types of messages and media used, and on the advertising services market. The most recent breakthrough in the field

of advertising is interactive advertising. Traditional advertising is a monologue between the sender and the recipient. An advertiser presents an offer, and if the consumer has such a need, they become familiar with the product. In this case, the recipient of advertising is passive- he has no influence over the content of the advertisement. The situation is different with interactive advertising. It is a dialogue between the advertiser and the consumer (Burgiel, 2006, pp. 141-142). The latter can select the content viewed with the help of dialog boxes and "buttons" (Dyba, 2006). For example, they can choose the content that interests them, enlarge details, give products different colors, an even give their opinion about the product.

In the near future, interactive advertising will continue to flourish, supplanting the traditional communications market. It will probably be emitted by other media as well, such as the radio. There is no doubt that the development of interactive advertising has many advantages, such as (Czarniewski, 2010):

- the possibility to include a lot of information,

- being able to chose the content,

- quick search,

- influencing viewers through movies, narration, sound, and special effects.

Changes are also occurring in outdoor advertising. Progress can be clearly seen in two areas. The first is the quest for increasingly shocking, unconventional and costly campaigns. The second area of progress in outdoor advertising is its forms. The newest form is digital outdoor advertising, with large LCD screens placed on the streets or inside buildings, which allow for the programming and display of all sorts of messages, including commercials.

Companies (advertisers) are gradually beginning to appreciate the importance of including evidence-based content in advertisements. This is an important component of the message, often critical to its effectiveness. Evidence-based advertising means including the recognition of the product or service by independent institutions or authorities in the content of the message. Evidence-based advertising is expected to keep expanding. Companies are becoming more aware of the fact that advertising should not only appeal to consumers, but above all, encourage them to make a purchase (Herman, 2008). Evidence plays a huge role in this process - highlighting the uniqueness of the offer and its superiority to the proposals of competitors.

Changes are occurring in the ways advertising agencies think, act, and are organized. This is a consequence of the belief that they must continuously interact with consumers through many different forms of media and communication, not just the press, radio or television.

More and more brands are forced to go beyond the narrow transmission of product characteristics. To succeed, marketing communication must refer to the lifestyles of customers, and show them what they can gain from the brand on an everyday basis. The main objective is to make consumers like the brand (Best, 2009). This is how brand loyalty is built.

Maintaining the effectiveness of advertising at the current level will require more spending on advertising and intensification of activities in terms of their efficient allocation. These changes will also affect the Polish advertising market. From a macroeconomic point of view, at the moment the Polish advertising market is still disproportionately small compared to its absorption level. Growing competition between producers and lower tolerance to advertising by consumers,

mainly due to the increasing satiety and aversion to commercials, result in the need to enlarge advertising budgets, and thus stimulate the growth potential of the advertising market in Poland to a level comparable with some of the other countries of the European Union.

Interesting conclusions can be drawn from the analysis of trends characterizing the rise of the share of advertising expenditure in the budget of surveyed enterprises in Poland (Figure 1.). The study included two periods in the past (the relationship of 2007 to 2006 and 2008 to 2007) and two projections at the time of project realization (2009 to 2008 and 2010 to 2009). The aim of this approach was to obtain information on long-term trends, taking into account the impact of the financial crisis which was occurring at the time.

Analysis shows that year after year, companies increased spending on advertising in their budgets. While the dynamics of this phenomenon is not high, subsequent comparative periods showed a growth in the number of companies declaring an increase in spending on advertising in their budget compared to the previous year by nearly 3% (2,5%, 2,9%, 2,6% respectively).

The indicator showing advertising expenditure, by itself does not give an objective picture of the development of the advertising market in a given country and does not allow for a comparison between countries. In order to do so, it is necessary to take into account the size of the particular country, its level of economic development and the purchasing power of the population.

CONCLUSIONS OF THE STUDY

On the basis of the presented results of the research on the effectiveness of the traditional process of communicating customer value and the

impact of traditional market communication on consumer purchasing behavior, some conclusions can be made:

Firstly, the relationship of consumers to traditional market communication is becoming more indifferent (one can even venture to say - acquiescent). Increasingly, this observed reality is becoming recognized by the public as a natural phenomena, a fixed element of everyday life. The evidence for this is the research results, which show an increase in indifference towards traditional communication, and at the same time a decrease in negative attitudes.

Secondly, advertisers should pay more attention to the media through which they try to reach consumers. They should pay particular attention to the preferences of recipients in this area, taking into account any potential consumer's right to privacy and tranquility. The main purpose of advertising is to awaken curiosity and stimulate interest in a product, and the desire to possess it, but making an incorrect decision when selecting an advertising medium can cause all the work and the financial investment in the advertising campaign to be wasted.

According to the survey, the public really appreciates their privacy and because of this, they rate the telephone as the most irritating means of communication. This is understandable, since it is one of the most intrusive means of communication. It's possible that the telephone call advertising a product prevents the recipient from completing an important activity (i.e. a mother putting a child to bed, or trying to fall asleep after a long day). On the other hand, the most approved of means of advertising is outdoor advertising, in the form of banners and posters, as well as advertising in the press.

Another issue raised in the study was the attitudes of recipients of advertisements as to the accuracy of the information given in them. Unfortunately, it is difficult to find positive comments on this issue. The majority of consumers (57.3%) said that traditional communication is not a reliable source of information on the products presented. Even though most of the knowledge about the product being offered comes just from traditional market communication, this group of respondents said that they do not believe the advertisement, and they do not trust it. This fact testifies to the low level of reliability of traditional communications messages. Thus, in the opinion of consumers surveyed, traditional market communication is not very effective and has little impact on customers' purchasing decisions.

This should be a signal for advertisers to improve the reliability and credibility of their ads, and while this is undoubtedly a long and demanding process that takes a lot of effort, it is necessary in order to achieve customer confidence, and thus the success of the company. Additionally, it is not a goal impossible to achieve, because what is visible in the presented results of the study, in spite of - mostly - a critical assessment of the credibility of advertising, respondents report a fairly positive attitude toward promoted products. Only about 28% of respondents believed that advertising was a sign of a low quality product that probably could not be sold otherwise. The rest believe that an advertised product is of good quality and the company is in good financial condition, which is a sign of a neutral attitude to the product, and allows a company to take certain actions in order to create positive emotions in consumers.

Attention should also be paid to the growing consciousness among recipients.

More and more consumers are aware of the various techniques used in traditional communication to increase its effectiveness. This entails not only the growing number of people with higher education, but also with life experience. Therefore, enterprises should pay very close attention to these aspects of traditional communication: credibility, integrity, and honesty; otherwise they can end up with a loss of trust and respectability on the market, and ultimately the loss of a large number of customers and the deterioration of the financial situation of the company.

For traditional communication to be effective, it is important that, in addition to choosing the appropriate media, its elements are composed in the right way. Images, music and words need to be properly composed, concerted and consistent. According to recipients of advertising, the most important element is the image. This is understandable, since most people are visual learners, which means that it is easiest for them to assimilate information through sight. What usually grabs the attention of recipients are illustrations, and ones that cause certain associations are the ones that get remembered. It is the use of appropriate colors, scenery and characters in advertising that has the largest influence on people's perception. Another important element of traditional market communication is words. Without them it would be difficult to transfer information about the product. Brevity and concision are the main challenges faced by the creators of texts for advertisements, since every potential client considers his time and energy very valuable, and does not like to waste either, and both are necessary for the process of receiving communication messages.

A properly implemented process of traditional communication, both from a

technical point of view, such as the media used, as well as its components, in terms of content and value, causes a certain reaction among consumers. Research shows that traditional communication on the Polish market is characterized by an increasingly higher level of sophistication, where more than half of the consumers surveyed declared that seeing an advertisement for a certain product makes them want to buy it (21,3% of those surveyed declared that this happens often, and 40,3% declared that it occurs on occasion).

An additional means by which to strengthen the desire to own the product is to use a famous person or an expert in the communication process, as confirmed by more than half of the surveyed customers. Among consumers there is the belief that if a famous and successful person is advertising such a product, it is very likely that it is really good (almost luxurious). A similar result is achieved through the use of an expert in a particular field in advertising a given product. A basic example of such advertisements are for pharmaceutical products where an employee of a pharmacy, a doctor (e.g., an analgesic), or a dentist in toothpaste commercials, makes a recommendation. This form of traditional communication is characterized by greater consumer confidence and thus higher sales of the product.

Research conducted among consumers shows that traditional communication can be used to motivate consumers to buy a product, but only until the first time it is in their possession. If the product purchased under the influence of traditional communication does not meet customer expectations, they are not willing to purchase it again. Therefore, the conclusion is that traditional communication can serve only to encourage customers to try the promoted

product, but it is not able to fill the gap that exists between the expected and obtained satisfaction from its possession and / or use.

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Table - 1
Distribution of the surveyed population of recipients of marketing communication

Description		Consumers	
		Number of consumers surveyed	Percentage of total consumer respondents
Sex	Female	156	52,0
	Male	144	48,0
Age	18-24	52	17,3
	25-34	78	26,0
	35-44	85	28,3
	45-54	59	19,7
	55-64	15	5,0
	65 and over	11	3,7
Education	primary	32	10,7
	vocational	72	24,0
	secondary	127	42,3
	higher	69	23,0
Place of residence	village	96	32,0
	town with up to 50 thousand residents	103	34,3
	city with more than 50 thousand residents	101	33,7
Province	podlaskie	155	51,7
	warmińsko-mazurskie	145	48,3
Total		300	100,0

Source: own research.

Table - 2
The attitude of respondents to traditional forms of communication

Attitude towards traditional forms of communication	Number of customers who indicated the given option	Percentage of total customers
I do not like advertisements and try not to watch them (not to read / not to listen)	167	55,7
I like advertisements, but in moderation	51	17,0
I like advertisements and watch./read/listen to them frequently	32	10,6
Hard to say	27	9,0
It irritates/annoys me	23	7,7

Source: own research based on surveys conducted among consumers in Poland in 2012.

Table - 3
The most irritating form of communication

The most irritating form of communication	Number of customers who indicated the given choice	Percentage of total customers
Telephone	116	38,7
Television	75	25,0
Post	33	11,0
Internet	29	9,7
Radio	27	9,0
Press	12	4,0
Outdoor	8	2,6

Source: own results based on surveys conducted among consumers in Poland in 2012.

Table - 4
Level/Degree of Reliability of Traditional Communication in the Opinion of Customers Surveyed

Level/Degree of Reliability of Traditional Communication connected with products offered	Number of customers who indicated the given choice	Percentage of total customers
Communication messages do not show items as they are in reality, and the information contained therein is untrue	172	57,3
There is much truth in the majority of communication messages	87	29,0
communication messages present a true picture of advertised products and provide accurate and reliable information	41	13,7

Source: own results based on surveys conducted among consumers in Poland in 2012.

Table - 5
Attitude towards advertised products in the opinion of consumers surveyed

Attitude towards advertised products	Number of customers who indicated the given choice	Percentage of total customers
The company is financially sound and able to incur the costs of market communication	153	51,0
The product is unattractive if it has to be advertised	83	27,7
It is a good product	64	21,3

Source: own results based on surveys conducted among consumers in Poland in 2012.

Table - 6
Traditional market communication and a lack of consumer experience

Does traditional communication use the lack of consumer experience to its advantage?	Number of customers who indicated the given choice	Percentage of total customers
Probably yes	159	53,0
Definitely yes	96	32,0
Probably not	31	10,3
Definitely not	14	4,7

Source: own results based on surveys conducted among consumers in Poland in 2012.

Table - 7
Most important elements of traditional communication

Most important elements of traditional communication	Order of importance of the item in the opinion of customers surveyed	Number of customers who indicated the given choice	Percentage of total customers	Average importance of the element / on a scale of 1-5, where 1 - very low, 5 - very high / in the opinion of the customers surveyed
Image	1	234	78,0	3,90
Words	2	226	75,3	3,77
Music	3	187	62,3	3,12
Other	4	16	5,3	0,27

Source: own results based on surveys conducted among consumers in Poland in 2012.

Table - 8
Sources of information about products, in the opinion of consumers surveyed

Source of information about a product	Order of importance of the item in the opinion of customers surveyed	Number of customers who indicated the given choice	Percentage of total customers	Average importance of the element / on a scale of 1-5, where 1 - very low, 5 - very high / in the opinion of the customers surveyed
Family / acquaintances / friends	1	243	81.0	4,05
Dealers/Sales representatives	2	226	75.3	3,77
Internet	3	192	64.0	3,20
Informational advertising materials: flyers, posters, brochures	4	181	60.3	3,02
Mass media (radio, TV, Press)	5	162	54.0	2,70
Information on the packaging	6	144	48.0	2,40
Other	7	33	11.0	0,55

Source: own results based on surveys conducted among consumers in Poland in 2012.

Table - 9
Attempts to confirm information about products from other sources by consumers surveyed

Attempts to confirm information using other sources	Number of customers who indicated the given choice	Percentage of total customers
Yes, from time to time	109	36,3
Rarely	59	19,7
Yes, quite frequently	56	18,7
No, never	49	16,3
Hard to say	27	9,0

Source: own results based on surveys conducted among consumers in Poland in 2012.

Table - 10
Impact of traditional communication on purchasing decisions
in the opinion of consumers surveyed

Traditional communication and intention to purchase	Number of customers who indicated the given choice	Percentage of total customers
Only sometimes do I buy products that have gained my interest through advertising	121	40,3
I am more willing to buy products that are advertised than those that are not	64	21,3
I believe that good products do not need to be advertised	43	14,4
Advertisements do not have any effect on the products I purchase	36	12,0
I have no opinion	26	8,7
I always only buy products which were advertised, e.g. in the media	10	3,3

Source: own results based on surveys conducted among consumers in Poland in 2012.

Table - 11
Positive effect of using a famous person on the reception of traditional
communication in the opinion of consumers surveyed

Positive effect of using a famous person on the reception of traditional communication	Number of customers who indicated the given choice	Percentage of total customers
Yes	151	50,3
No	114	38,0
No opinion	35	11,7

Source: own results based on surveys conducted among consumers in Poland in 2012.

Table - 12
Types of products purchased under the influence of traditional communication
in the opinion of consumers surveyed

Types of products purchased under the influence of traditional communication	Number of customers who indicated the given choice	Percentage of total customers
Groceries	118	39,3
Cosmetics	63	21,0
Cleaning products	57	19,0
Cloths, Footwear	20	6,7
Appliances, Electronics	12	4,0
Financial Services/Insurance	11	3,6
Car	8	2,7
Services in the field of tourism and recreation	6	2,0
Medical products and services	5	1,7

Source: own results based on surveys conducted among consumers in Poland in 2012.

Table - 13
Level of satisfaction with the acquisition of a product
under the influence of traditional communication

Satisfaction with a recent product purchased under the influence of traditional communication	Number of customers who indicated the given choice	Percentage of total customers
Yes	196	65,3
No	104	34,7

Source: own results surveys conducted among consumers in Poland in 2012.

Table - 14
Willingness to purchase the product again under the influence of traditional communication

Willingness to purchase the product again (it did not live up to expectations) under the influence of traditional communication	Number of customers who indicated the given choice	Percentage of total customers
Yes	55	18,3
No	245	81,7

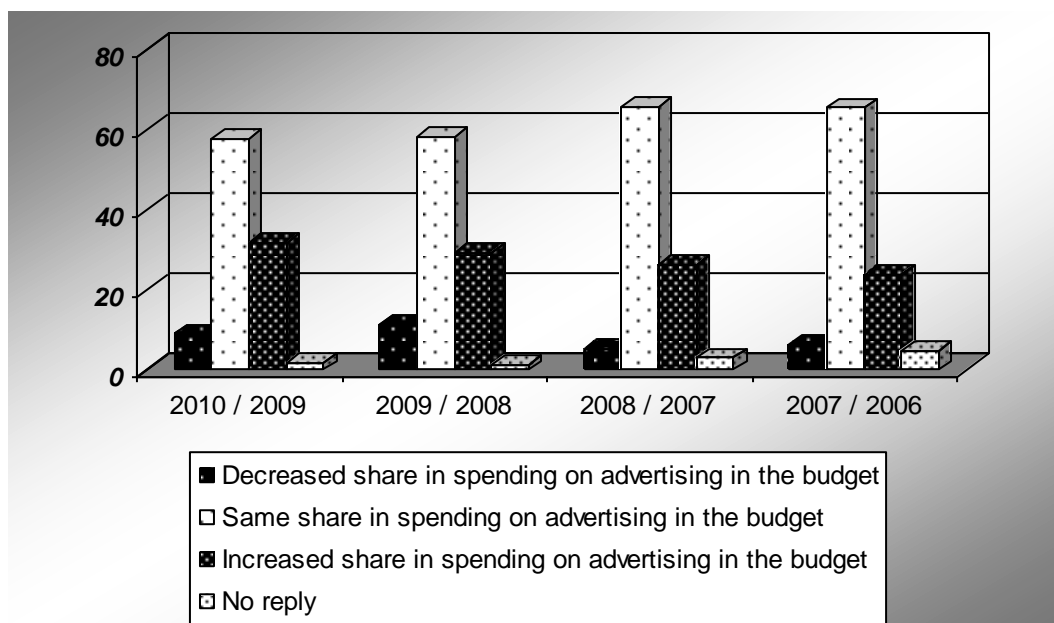
Source: own results based on surveys conducted among consumers in Poland in 2012.

Table - 15
Parameters reflecting the advertising market in Poland in the years 1999-2009

Year	Amount spent on advertising (in millions of \$)	Dynamics of expenditures on advertising (previous year = 100%)	Advertising spending as a percentage of GDP
1999	1741	-	1,06%
2000	1967	113%	1,20%
2001	2419	123%	1,32%
2002	2540	105%	1,34%
2003	2820	111%	1,35%
2004	3130	111%	1,42%
2005	3224	103%	1,47%
2006	3559	110%	1,55%
2007	4200	118%	1,54%
2008	4871	116%	1,65%
2009	4823	99%	1,55%

Source: Own calculations based on data from companies monitoring advertising spending in the media: Expert-Monitor CR Media Consulting and Starlink, and statistical data from the Central Statistical Office and the Ministry of Economy in Poland.

Figure - 1
Trends in the share of advertising expenditure
in the budgets of enterprises in Poland from 2006-2010



Source: own research based on Nowacki, R. (2011). *Procesy zarządzania działalnością reklamową w przedsiębiorstwach*. In: R. Nowacki & M. Strużycki (Eds.), *Reklama w procesach konkurencji* (p. 122), Warsaw: Difin Publishing.

A New Paradigm for Selecting SaaS Marketing Strategies

Michael Mager
78595 Hidden Palms Dr.
92211 Palm Desert
CA, United States

Stephen Belomy
Jimdo Inc.
548 Market Street #56907
San Francisco, CA 94104
USA

Carsten Rennhak
Universität der Bundeswehr München
Werner-Heisenberg-Weg 39
85577 Neubiberg
Germany

Abstract

Software as a Service (SaaS) is a key development in the software industry. Within a decade products matured from rigid functional software to dynamic customizable software to meet customer needs. Within this process, the perception of software shifted from a product perspective to a service perspective. The successful business model in the industry was transformed from transaction-based to relationship-based. By 2014, SaaS is a global multi-billion dollar industry. There are three types of SaaS: low-touch, moderate-touch, and high-touch. So far, literature does not provide a comprehensive model for marketing strategy definition in the SaaS industry.

Based on strategic marketing theory, this paper introduces a comprehensive model for SaaS marketing strategy decision-making. The framework is based on Lauterborn's four C's as well as Tyrväinen and Selin's SaaS marketing and selling dimensions model. Furthermore, the paper provides a set of metrics to measure the rate of success of a SaaS marketing strategy. An application based on data collected by the Pacific Crest survey analyzing SaaS companies is provided.

Keywords: Software as a Service, Cloud Computing, Marketing Strategy, Software Business Performance, Evaluation, Digital Business Metrics

INTRODUCTION

Within just ten years, Software as a Service (SaaS) has formed into a global multi-billion dollar industry that has shifted software from product to service (Siemer and Associates, 2013). SaaS is not directed towards one solution or customer type, but has formed a variety of solutions for individuals and businesses alike. The competition in this market is becoming fiercer and not everyone competing today will remain. Customer demand is driven by quality and cost of the software itself as well as the customer focus of the software company. This makes an appropriate marketing strategy ever more vital for the viability of a company.

This paper analyzes comparative marketing strategies in the SaaS industry. The conceptual approach is to consolidate

existing views on what makes a marketing strategy most effective into a single coherent strategy.

After providing the necessary definitions, the SaaS industry will be analyzed briefly to understand drivers of change and basic marketing strategies applied in corporate practice. The paper will then outline today's state of the art SaaS marketing strategies and apply them to Lauterborn's four C's. The process will result in a marketing strategy theory that can be applied to SaaS companies.

2. Software as a Service

2.1 Definition and Characteristics

Software as a Service (SaaS) is a fast growing model that have developed in the past ten years (SIIA, 2011). It is "a standard software product operated by the

SaaS provider, delivered using standard Internet protocols and is consumed as on-demand services by the customers, typically using Web browsers as the user interface” (Tyrväinen and Selin, 2011, p. 4).

Traditional software is an “application installed on the premise of the customer’s computer, such that only internal users have access to the applications” (Pfeifer, 2006). SaaS distinct characteristics include (Tyrväinen and Selin, 2011, p. 4):

- software used over a web browser or other thin client through standard internet protocol,
- standardized software product with no customization,
- software without installation requirements,
- deployment requires no major integration,
- customers pay for use rather than installation of software,
- multi-tenant installation is provided for several customers.

As software became universally adopted into industry and personal operations in the 1990’s, “organizations found that while software can be customized, it often led to “version-lock” meaning updating it was uneconomical money- and timewise (Servicenow, 2011 p.3). Application service providers (ASPs) appeared as potential solutions to costly software reimplementation by taking the IT responsibilities of buying and maintaining client/server applications from companies and efficiently managing it for them. However, the ASP model failed due to high costs and inherent flaws in software (Servicenow, 2011, p. 1).

In 2001, the Software & Information Industry Association (SIIA) addressed the concept of SaaS. Built on web-based technologies and providing highly

configurable services, it became a solution for organizations facing the inherent inefficiencies of ‘traditional software’. Since then, there have been three evolutionary steps in SaaS: 1.0, 2.0, and cloud computing: SaaS 1.0 (2001-2006) was the adoption stage of SaaS with the purpose of creating cost-effective software delivery resulting in stand-alone or no-installation-needed applications, focus on rapid deployment, and limited configurability. SaaS 2.0 (2005-2013) was the mainstream and ubiquitous adoption of SaaS. The product focus was first on being an integrated business solution with customization capabilities, which then transitioned into workflow-enabled business transformation looking to optimize business ecosystems, inter-enterprise collaboration, IT utility, and more customized workflows. Today, SaaS is the post-adoption stage: cloud computing with a predicted lifetime of 2011 to ca. 2016 and will look to measure, monitor, and manage business processes. The intended value is aimed at integrated SaaS with accessible services anywhere, intelligent hubs linking platforms, mobile device and sensor control, dynamically scalable infrastructure, and optimizing business processes.

2.2 SaaS Industry

For both, B2C and B2B, SaaS the development of the internet and access on the go with mobile devices and tablets has created a more empowered customer. The availability of software and ease of search creates more informed and thus powerful customers which leads to the necessity to meet customer expectations with high quality software and service. Especially SaaS companies’ subscription-based model relies on the satisfaction of their users to renew their monthly or annual contracts.

The SaaS industry has a spectrum of solutions for customers that can be distinguished into three identifiable

categories: low touch, moderate touch, high touch (Sesser, 2013). The degree of touch represents the complexity, integration investment, and required service of the software (Gillian and McCarthy, 1999). The categorization of ASP offerings illustrated in Figure 1 considers the volume of business, business complexity, customization of the application, complexity, type of application, and the extent of service required. Although ASPs do not hold the same operational configuration as SaaS, this categorization can be transferred to SaaS in relation to service, application and user complexity.

Insert Figure 1

Low-touch SaaS companies tend to have B2C or B2B software such as personal or collaborative applications that provide basic core services and tend to have high volumes of business, low customization, low business complexity, and a low complex sales cycle. An example of a B2C low-touch collaboration software would be the voice over IP calling service *Skype* because it has simple customization options, executes a basic function — calling — and is not complicated to run.

Moderate-touch SaaS companies generally sell B2B software that is collaborative and commerce applications that, on top of the core services, provide support, security, data redundancy and service level agreements additionally while they tend to have lower business volumes, high customization and complexity (Gillian and McCarthy, 1999). An example of B2B moderate-touch collaboration software would be *Yammer*, a private social and collaboration platform for companies including personal customer service. To initially create a company Yammer network, there is a low time investment with a short sign-up process. However, to implement Yammer effectively, a greater time investment is required.

High-touch SaaS companies generally sell B2B software for customer relationship management (CRM), enterprise resource management, and vertical and analytical applications. They offer even further extended services such as application configuration, strategy, or training and tend to have low volumes of business, high customization, high business complexity, and a highly complex sales cycle (Gillian and McCarthy, 1999). An example of high-touch software is the *Salesforce.com*

Insert Figure 2.

customized CRM for businesses which offers opportunity tracking, lead scoring and assignment, workflow and approval automation, integration via a web service application programming interface or custom app development.

3. SaaS Marketing Strategies

Tyrväinen and Selin (2011, p. 5) outline eight dimensions of marketing and selling SaaS, each divided into multiple categories. Their model is shown in Figure 2. According to the authors, it is expected that the categories in the middle are likely to co-occur as the outer and inner categories are also likely to co-occur (Tyrväinen and Selin, 2011, p. 5). For example, a small SaaS company with fewer than ten employees would provide a self-service model software, aimed at a customer size of fewer than ten people, conduct communication marketing/sales through the internet, have their typical buyer be the end user, sell the service at a low price, and have a low customer lifetime value.

These co-occurrences closely relate to the SaaS types with regard to service intensity and customer size as mentioned above. Although this model is not explicitly called a marketing strategy, it holds elements that can be aligned to Lauterborn's (1990) four C's marketing mix

(Customer Solution, Customer Cost, Convenience, and Communication) as laid out in Figure 3.

Using a SaaS market research survey conducted by Pacific Crest (2013) on SaaS companies, this paper will evaluate Figure 2's dimensions and the co-occurrences found in the three rings of categories to determine whether they could be formed into a foundational marketing strategy based on SaaS type.

Insert Figure 3

The sole dimension from Tyrväinen and Selin (2011) that is questionable whether it belonged with the four C's is 'Provider Size'. There was no data pertaining to the number of employees of the companies in Pacific Crest (2013). However, a low-touch company like Skype has around 1,600 employees and a high-touch company like ServiceNow has around 1,270 employees (BBC, 2012). If a low-touch and high-touch company can have roughly the same number of employees regardless of touch-type then it is questionable whether this data is relevant. Pacific Crest (2013) does provide revenue values that could correlate to company size, but how long each company has existed is unknown since one company could be more established in a market over time than another. As a result, provider size will be disregarded as a relevant marketing strategy dimension.

3.1 Customer

The customer is described by three dimensions:

- service and implementation model,
- customer size
- and typical buyer (Tyrväinen and Selin, 2011, p. 6)

The degree of service and implementation that is required for a customer to use the software is based on

the complexity of the solution being solved (Gillian and McCarthy, 1999). Service is the degree of intensity of support a customer receives, ranging from self-service (low-touch) to tailoring and consultation (high-touch), which correlates to the complexity of implementation (Figure 1).

Based on Tyrväinen and Selin's target customers, the complexity rises with the size of the customer base a solution is designed for. This meets the categorization of Gillian and McCarthy (1999). Pacific Crest (2013) shows that the professional services offered as a percentage of the first-year average contract value (ACV) was 21% for enterprises, 15% for small medium size businesses (SMB), and 6% for very small businesses (VSB). A solution designed for a high-touch software user, e.g. an enterprise, is more complex and service demanding than a solution designed for a low-touch software, e.g. a VSB, and thus more expensive. Thus, the customer's size correlates to the degree of complexity of a SaaS solution.

A buyer for low-touch software would typically be the end user (individual or small team), for moderate-touch software this would be a technical buyer or business management (for several small teams or small company), and for high-touch software this would be a top management or senior executive for a large company (Tyrväinen and Selin, 2011, p. 5). As a result, the significance of the buyer's role increases depending on the level of implementation and the customer size.

3.2 Customer's Cost

Customer's cost refers to the cost to satisfy a need or want with regard to price, time investment, and more (Lauterborn, 1990, p.1) and is described by the dimension 'Entry Transaction Size' (ETS; Tyrväinen and Selin, 2011, p. 6). The ETS refers to the initial price of setting up the software, which relates directly to price

(Tyrväinen and Selin, 2011, p. 6). As mentioned before, the cost of professional services provided as a percentage of the first-year average contract for enterprises is 15% higher for enterprises than for VSBs. Costs correlate to contract values. If a company's costs are greater than its price, that company would not earn the necessary revenue margin to cover operational costs. According to Pacific Crest (2013), the contract values for low-touch software are generally below \$5,000, moderate-touch software are \$5,000 to \$25,000, and high-touch software above \$100,000. Thus, lower prices are associated with low-touch software since there is lower service intensity for customers, which creates a higher customer base but lower revenue margins. On the other hand, high-touch software tends to be more expensive due to service intensity, which creates a smaller customer base but higher revenue margins.

Another relevant cost is the average contract length. The more service and implementation-demanding the software, the greater the time cost for the customer. Contracts worth less than \$5,000 typically have monthly contracts (low-touch). Contracts worth \$5,000 to \$25,000 have contract terms between one and two years (moderate-touch). Contracts greater than \$25,000 extend periods of greater than a year (high-touch; Pacific Crest, 2013, p. 36).

One aspect not mentioned in Tyrväinen and Selin (2011), but in Pacific Crest (2013, p.24) is the two business models of a SaaS company: freemium and 'try before you buy'. The difference between the two is that the freemium model allows customers to use a version of the software forever while the 'try before you buy' allows customers to use a version of the software for a limited period of time (Murphy, 2012). SaaS companies allow users to use the software for free in hope that after sampling the software they will convert to paying

users. Pacific Crest (2013, p. 24) shows that the likelihood of any new ACV from freemium leads is zero to ten percent and from 'try before you buy' leads is above 50%. No new ACV had a greater percentage of likelihood in freemium, 75%, and 'try before you buy', 36%; 25% of these surveyed SaaS companies used freemium in some way.

3.3 Convenience

Convenience refers to how customers can best deliver a product to the customer (Lauterborn, 1990, p. 1) and is identified by the dimension 'Sales Channel' (Tyrväinen and Selin, 2011, p. 5). Sales channels — internet, reseller, value added reseller (VAR), sales representative, and personal direct sales — refer to how the firm aims to complete sales transactions (Tyrväinen and Selin, 2011, p. 4). Pacific Crest (2013) refers to distribution channels, of which the sales channels would be categorized as internet sales, channel sales, inside sales, and field sales.

Internet sales are transactions that occur over a website to purchase and access the software (Tyrväinen and Selin, 2011, p. 5). Resellers and VARs both use the method of buying goods from a manufacturer and selling them to a customer, however a reseller leaves the product unchanged while a VAR alters the product before sales. A possible example of a reseller sale would be an affiliate partner. An affiliate partner helps expand the SaaS company outreach by redirecting a customer to the SaaS sales channel through banner ads or other advertisements; if software is purchased, they receive a commission on that sale from the SaaS company. A VAR is similar to an affiliate partner, but packages a SaaS with additional functionality and receives a commission per sale made on that package.

An inside sale is when contact is made with a potential customer directly by

the company or a representative, for example over the phone or by email (Krogue, 2013). Inside sales aims to create a lead generator through personal communication and more specifically, inbound marketing (Skok, 2009) using tools such as social media and email to attract, convert, close, and delight potential customers.

A field sale is when contact is made with a potential customer outside of the office (Krogue, 2013). Personal direct sale and representatives also apply here, but the sales employee or representative interacts with potential customers in person.

Insert Figure 4

Figure 4 outlines which sales channel types were used according to the ACV. Since a SaaS touch-type correlates with the ACV of the software, the sales channel type can be derived from the SaaS company type (Pacific Crest, 2013, p. 15).

Contracts worth less than \$5,000, low-touch software, use the internet as a primary distribution channel, followed by inside sales. A less personal method is used because low-touch companies need to spend less in customer acquisition, but have a larger user base to cover costs (Skok, 2013). Contracts worth between \$5,000 and \$25,000, moderate-touch software, use inside sales as a primary distribution channel and then field sales. Also limited by spending on customer acquisition, moderate-touch software needs to invest in personal distribution to acquire customers, since the software is more complex and expensive compared to low-touch software (Skok, 2013). Contracts worth above \$25,000 used field sales as a primary distribution channel, followed by inside sales. High-touch software use the most personal method to acquire customers, since the contract values are high and a high-touch customers need

personal consulting and services (Skok, 2013).

Channel sales were an unpopular choice for distribution by all types of SaaS companies (Pacific Crest, 2013, p. 15).

SaaS companies' choice of distribution channels also correlate with the channel costs (Skok, 2013). Since low-touch software are priced relatively low and generate low revenue per additional user, the internet is used to reach large audiences at low costs. Customer acquisition cost (CAC) through internet sales is on average \$0.55. High-touch software are priced relatively high and generate high revenue per additional user. As a result, CACs through field sales are higher at an average of \$0.96. Inside sales, mainly used by moderate-touch companies, have an average CAC of \$0.86 (Pacific Crest, 2013, p. 18).

3.4 Communication

Lauterborn (1990, p.1) defines communication as a continuous dialogue between company and customer. It is described by the market communication channel and customer lifetime value dimensions (Tyrväinen and Selin, 2011, p.5). A market communication channel defines how a SaaS company delivers information: through internet or personal marketing (i.e. 'face to face' interactions with customers such as running a booth at a fair), relationship management, promotion, or advertising (Tyrväinen and Selin, 2011, p.5).

Insert figure 5.

In 2014, top internet marketing trends are likely to include search engine optimization (SEO), social media and content marketing, and website banner advertisement (DeMers, 2013). The market communication channel objectives are to create brand awareness and recognition (Tyrväinen and Selin, 2011, p. 5). Pacific

Crest (2013) has no direct data to support market communication specifically, but there is a correlation between the dimension's categories and cost. Marketing through the internet can vary significantly in terms of costs: setting up a Facebook page is free, optimizing your SEO requires knowledge, but is also free to do on your own web page, and banner ads can cost \$15 per thousand clicks to the company website (McCulloch, 2000). Personal marketing generates salary costs. Setting up a fair booth requires both resource investment for the physical fair booth and at least temporary salaries. Relationship management can come as a software system costing between \$60 and \$6,000 per year (Salesforce, 2013), but also costs time and money to set up utilize.

A promotion expense is given usually in the form of giveaways, rebates and discounts. For example, a SaaS company could sell its software with a promotional discount of 25% off the standard price. This then reduces the campaign's potential revenue by 25%. If the 25% discounted software makes up 50% of the company's revenue, then the campaign will cost 12.5% of total revenue. The amount of discount you offer can cost relatively more than a CRM system depending on how much the discount rate is. Advertisements such as radio and TV spots are often the most costly marketing practices, since the cost of ad placement is relatively larger than the previous marketing channels. "The average unit costs for the top 15 cable networks in the US among 25-54 year old viewers in prime time were \$17,123 in 2011" (Friedman, 2013).

Tyrväinen and Selin (2011, p. 5) argue that high-touch SaaS use promotion and advertising communication, while low-touch software use internet and personal marketing communication. This seems controversial, as low-touch companies

actively use promotion and advertising, too. Recently, Squarespace, a low-touch, Do-It-Yourself (DIY) website builder, has aired its own commercial 2,444 times (ISpot.tv Inc, 2013). Squarespace also has a section on their website offering a ten percent discount to potential buyers on any software package. Due to the relatively large customer base of a low-touch SaaS company, the amount of time invested in each customer must be limited simply due to lack of resources (Sesser, 2013). The smaller customer base of a high-touch SaaS company allows the company to invest more time in their customers which is also necessary due to the higher software service requirements (Sesser, 2013). Disregarding promotion and advertisement marketing, the degree of customer interaction from internet to CRM correlates with the little time investment per person (low-touch) to high time investment per person (high-touch) a company has for their customers.

Insert Figure 6.

'Customer Lifetime Value' (LTV) is "the surplus of long-term income from customer reduced by customer relationship maintenance costs" (Tyrväinen and Selin, 2011, p 4). This is represented by value of existing and potential customer relationships based on their average monthly or annual recurring revenue (MRR or ARR), and the churn rate (Skok, 2013), and defines the profitability and viability of the business model.

Communication involves the exchange of information between the company and the customer (Lauterborn, 1990, p. 1). Marketing communication can impact this value (Tyrväinen and Selin 2011, p. 5). The customer lifetime value categories are occasional, regular, and top customer, and were chosen to represent the average lifetime that a typical customer stays with each SaaS company touch type

(Tyrväinen and Selin, 2011, p. 5). Since high-touch SaaS provide more services such as consultation, the company is in direct contact with the user and can better understand more customizable needs (Gillian and McCarthy, 1999). On the other hand, low-touch SaaS provide self-services and tend to remain in less contact with each individual user and can generally understand the general needs of their customer (Gillian and McCarthy, 1999). Pacific Crest (2013, p. 41) does not measure LTV, but does measure the average churn rate, which directly affects the LTV. When the churn rate increases, the LTV decreases, and vice versa.

Figure 5 shows the average churn according to ACV. This paper will continue to use the categories less than \$5,000 for low-touch, \$5,000 to \$25,000 for moderate-touch, and greater than \$25,000 for high-touch (Figure 6).

According to these contract sizes the average churn resulted in contracts worth less than \$5,000 showing a churn rate of 12%, contracts worth \$5,000 to \$25,000 showing a churn rate of 9%, and contracts worth more than \$25,000 showing a churn rate of 10% (Pacific Crest 2013, p. 41). However, in Figure 5 there is clearly a higher churn rate of 18% for contracts worth less than \$1,000 and low churn rate of 2% for contracts worth more than \$250,000. The difference in the churn rates between far low and far high-touch software could be a result of the degree of personal customer interaction and the lower switching costs for low-touch software tend to make it cheaper to stop using the software and use another (Sesser, 2013). There appears to be a correlation between the \$1,000 and \$100,000 to \$250,000 ACV that shows the higher the touch the greater the churn. The reason for this churn pattern for moderate to high-touch could be that the high-

touch software users have a higher degree of revenue risk using a specific software

and thus have a greater willingness to change to a better existing solution. Moderate-touch software users, on the other hand, look for a solution that works more simply since its impact on revenue is relatively less. The difference in churn between the ACV worth less than \$1,000 and the ACV worth more than \$250,000 show a clear pattern opposite to the ACV churn rates between them. These patterns could be potentially linked to other factors or even coincidence.

3.5 Industry Performance Standards

Skok (2013) outlines a set of metrics SaaS companies should follow to track their marketing strategy results: Financial viability for SaaS companies heavily relies on three key factors: acquiring customers, retaining customers, and monetizing customers. Using these three factors, Skok (2013) outlines four categories of metrics SaaS companies should track for their marketing strategy: funnel metrics, customer engagement and happiness, booking metrics, and unit economics.

Customer acquisition uses funnel metrics to track the conversion of people visiting a company's website who become customers (Skok, 2013). This metric depends on the number of funnel stages needed to acquire a new customer, because the more steps there are, the more conversions that can be tracked (Skok, 2013). Low-touch software should have fewer stages, while high-touch software has more stages due to the complexity of the sales process (Gillian and McCarthy, 1999). The basic stages are visitors, trials, and new customers (Skok, 2013). Within these three stages there are five metrics one can track: the number of visitors to the company website, the number of trial users, the number of new customers, the percent conversion of visitors to trial users, and the percent conversion of trial users to new customers. This allows a company to analyze three forms of marketing

communication in how effective the company is attracting people to their website, convincing visitors to test, and trial users to purchase their software. The greater the values of website visits and conversion rates, the greater the monthly or annually recurring revenue (Skok, 2013).

Customer engagement and happiness relates directly to customer retention, since they are both churn predictors (Skok, 2013). Customer engagement can be measured by a customer engagement score that depends on the use of particular features of your SaaS that ensure a user is more or less engaged (Skok, 2013). It is important to choose the right features, since it allows the company to understand the future churn rates that would impact the future average customer LTV (Skok, 2013).

Customer happiness can be measured by the net promoter score (NPS; Skok, 2013). The NPS is dividing customers into three categories: promoters, passives, and detractors. Promoters are loyal enthusiasts who will continue purchasing the product and recommend it to others. Passives are satisfied but not enthusiastic customers who might be tempted by competitive products. Detractors are unhappy customers who damage the brand name and prevent growth through negative word-of-mouth. The NPS value is the percentage of promoters minus the percentage of detractors.

The average NPS score for software and applications industry is 24%, and ranged from 5% to 40%. This metric is also important for predicting the future churn rate and future customer acquisition (Skok, 2013). A company would want a high positive NPS value, since the more promoters a company has, the greater word-of-mouth communication is achieved and the easier customer acquisition will be. Customer retention will also result in more

stable and increasing future revenue stream. A company with a negative NPS score would have more detractors and would expect high churn in the future, which is detrimental to the company's revenue stream.

Booking metrics track the short-run, less than one year, customer monetization factor through monthly recurring revenue (MRR) or annual recurring revenue (ARR), depending on the typical contract length (Skok, 2013).

However, the metric that should be closely followed is the change in the amount of ending MRR or the net new MRR because it determines how much a company has grown financially (Skok, 2013). Net new MRR equals new MRR plus expansion MRR, minus churned MRR.

New MRR is revenue from new paying subscribers, expansion MRR is additional revenue from existing paying subscribers who purchase additional products and/or product upgrades, and churn MRR is revenue that existing customers no longer pay (Skok, 2013). A company would want positive net new MRR because it would increase incoming revenue. Another metric is average month's upfront payment, which helps determine the actual cash flow going in and out of the company due to delays in payment (Skok, 2013).

Unit economics is the focus on how successful the customer monetization factor is on the individual level in the long-run (Skok, 2013). It stresses two metrics: LTV to CAC ratio and the number of months to recover CAC, the average required investment to obtain one new customer.

Insert Figure 7

Skok (2013) states that "the best SaaS businesses have a LTV to CAC ratio that is higher than three, sometimes as high as seven or eight. And many [...] are able to

recover their CAC in 5-7 months.” If a LTV is three times higher than the CAC, then the company earns two times the CAC as revenue from each customer to cover operating expenses and to make reinvestments in the company’s future performance.

The time needed to recover the CAC is important because it determines the amount of time needed to get a profitable return on the customer. If the time to recover a CAC is five months, then the LTV would need to be 15 months to be a successful SaaS. For example, a company with a five month CAC recovery time and a monthly subscription cost of \$30 the company would spend \$150 to acquire, retain and monetize a new customer. Since LTV should be three times higher than CAC, the company would ideally earn \$300 from that \$150 investment to pay for other expenses or reinvest in the company.

3.6 The Foundational Marketing Strategy Model

Combining the findings of Lauterborn (1990), Tyrväinen and Selin (2011), and Pacific Crest (2013), this paper forms an updated foundational marketing strategy model relative to the three SaaS touch types. Also, a general industry performance evaluation was formulated based on the SaaS metrics by Skok (2013) for determining success.

Figure 7 represents a foundational marketing strategy model relative to the three SaaS touch types (Sesser, 2013). The dimensions for marketing and selling SaaS were divided as they were in Figure 5: Comparing Lauterborn’s four C’s and Tyrväinen and Selin’s marketing and selling factors.

The dimensions’ categories based on Tyrväinen and Selin’s model changed according to Pacific Crest (2013) with regard to customer size, entry transaction

size, sales channel, and LTV to churn. The market communication channel has the same categories as the Tyrväinen and Selin model, but promotion and advertising were spread across the three software types, since it could be argued that all SaaS company types could use these methods.

Insert Figure 8.

Figure 7 highlights the three software types described by Tyrväinen and Selin (2011) and Sesser (2013).

Based on the SaaS company software type one can determine its appropriate foundational marketing strategy. For example, a moderate-touch SaaS company would determine that their target buyers are technical buyers and/or business management, their customer target size is SMB, and their customers would need deployment and/or integration and/or tailoring services and implementation support. Their software would sell from \$5,000 to \$25,000, inside sales would be the best sales channel, aim for a 9% churn or lower, and should use personal marketing with potentially promotions or advertising for market communication.

Figure 8 summarizes the industry performance standards into an industry performance evaluation for SaaS companies according to the three key factors to financial viability and four categories for metrics defined by Skok (2013). The table’s metric values are split by improve and maintain. Improve means the metric is lower than industry expectations and needs attention. Maintain means the metric is above industry expectations and should aim to remain at that value.

The metric’s improve or maintain decision is based on the direct competitions’ funnel metric values and internal benchmarking over time. Within customer engagement and happiness, the customer

engagement score is measured by lower and higher and is primarily used for internal benchmarking, since the factors that measure engagement are determined by the company and would be difficult to compare with others. The net promoter score (NPS) ranges between the best and worst score in the software and application industry and is on average 24. Therefore, companies should aim to be above this 24 average to classify a successful NPS in this metric performance. Booking metrics evaluate short-run monetization and are relative to the company's ability to handle growth. Although a previous industry average was measured based on 15 companies at 60% annual growth (Coffey, 2011), this might not be representative of the entire industry, but as long as the net new MRR/ARR is positive the company is considered financially viable. Unit economics evaluates of the long-run monetization of customers by using LTV to CAC ratio which should be above three to be considered financially viable and below three if improvement is needed in that area (Skok, 2013). The months to recover CAC should be lower than 12 months to be considered successful and more than 12 months to require improvement in that area (Skok, 2013).

CONCLUSION AND OUTLOOK

Software as a Service is the next evolutionary development in software (Mason, 2012). Overcoming the inherent operational flaws of traditional software, it has become a widely adopted and growing software solution with an industry worth \$14.3 billion (Siemer and Associates, 2013). With its internet presence, SaaS has made a more customer centric software than ever before. Customers demand high quality software at low prices. The structure for competition and profitability is more rigorous as a result of this high buyer bargaining power. Regardless, SaaS has developed

over the past ten years from rigid functional software to dynamic customizable software to meet customer needs.

The industry has formed into three types of SaaS: low-touch, moderate-touch, and high-touch (Sesser, 2013). These types address the simple to complex problems found among individual customers to large businesses (Gillian and McCarthy, 1999). The state of the art for SaaS marketing strategy revolves around these three types of SaaS software. Applying past marketing strategy theory to new concepts for marketing and selling SaaS, as well as data collected on the practices of these companies, a new model for SaaS marketing strategy was created (Figure 7). Also, a set of metrics was used to define what success looks like for a SaaS marketing strategy (Figure 8).

To expand further on marketing strategies for SaaS companies, case studies investigating the theoretical model are required as well as a deeper look into each touch-type software to break down marketing strategies according to more specific industry labels. For example, the low-touch software type could be divided into website builders, communication tools, and productivity tools. Skok (2013) claims that churn is one of the most critical success factors for SaaS companies. Further research could be done on the cause and effects of churn and what tactics are used to reduce it.

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Figure - 1

Categorization of ASP Offerings (Gillian & McCarthy 1999)

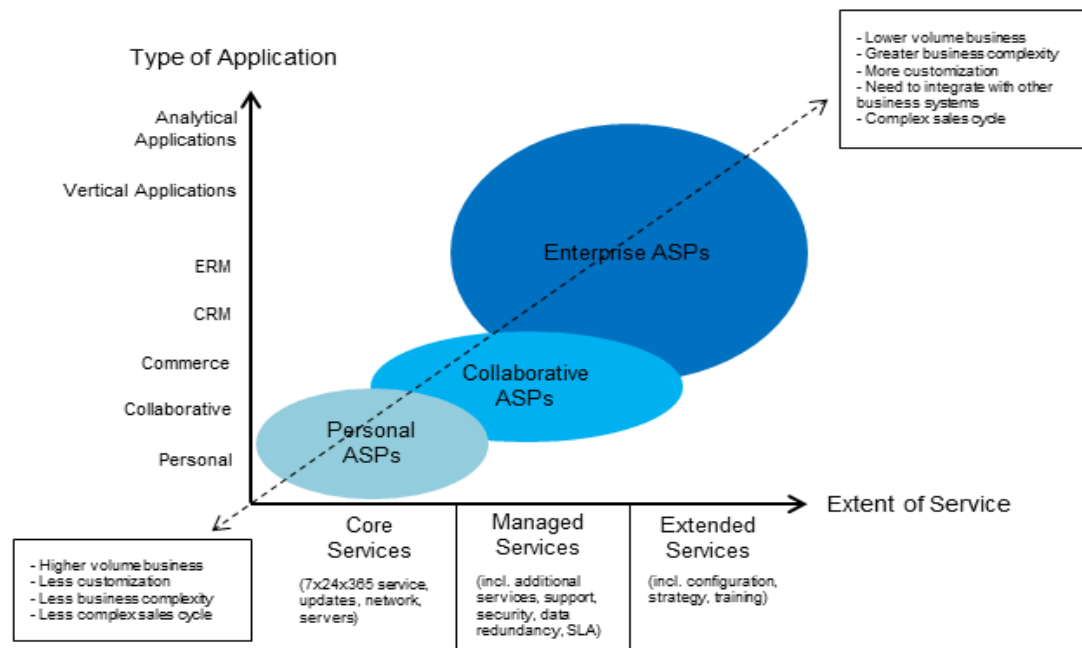


Figure - 2

The Main Factors of Marketing and Selling SaaS (Tyrväinen and Selin, 2011, p. 6)

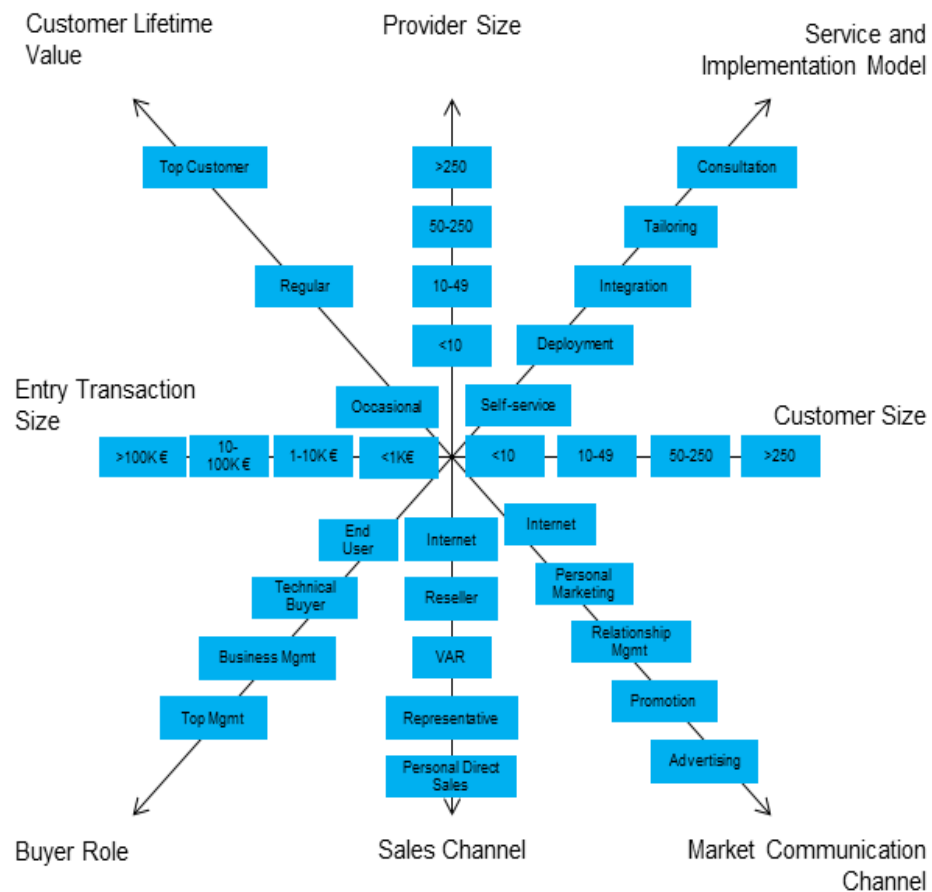


Figure - 3
Comparing the Lauterborn Four C's to the Tyrväinen and Selin Marketing and Selling Dimensions

Lauterborn's Four C's (1990)	Marketing Strategy Dimensions by Tyrväinen and Selin (2011)
Unclassified	a. Provider Size
Consumer	a. Service and Implementation Model b. Customer Size c. Buyer Role
Cost	a. Entry Transaction Size
Convenience	a. Sales Channel
Communication	a. Market Communication Channel b. Lifetime Value (LTV)

Figure - 4
Primary Mode of Distribution as a Function of Median Initial Contract Size (Pacific Crest, 2013, p. 15)

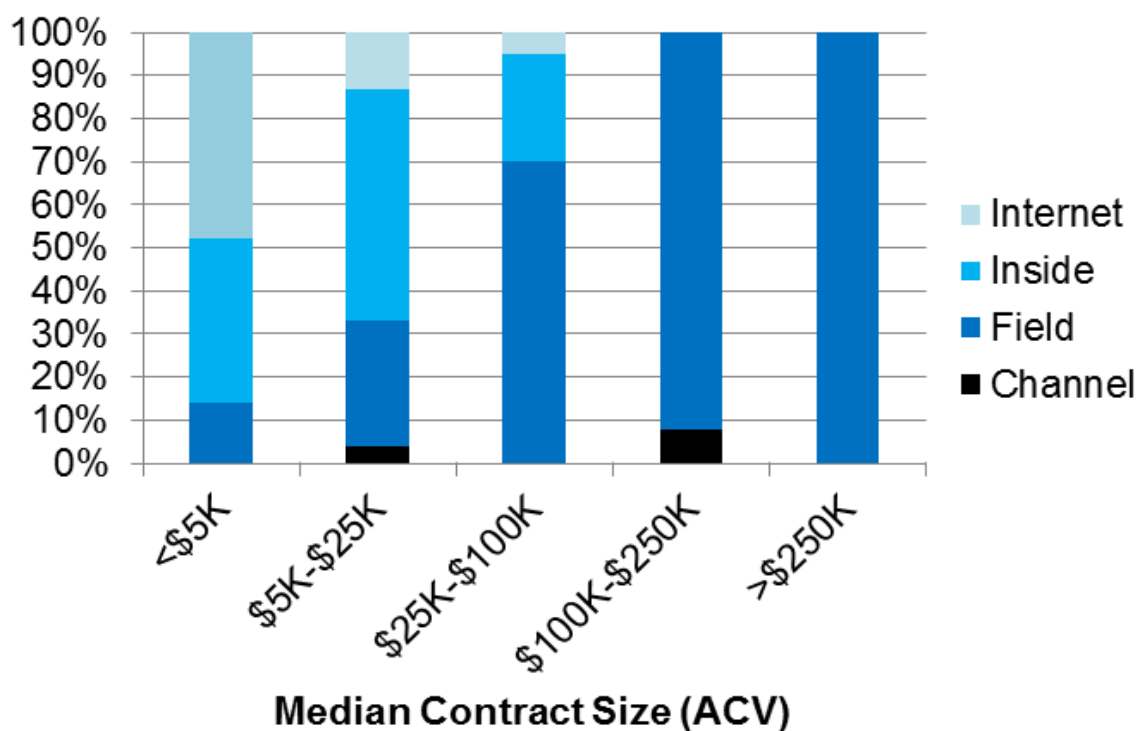
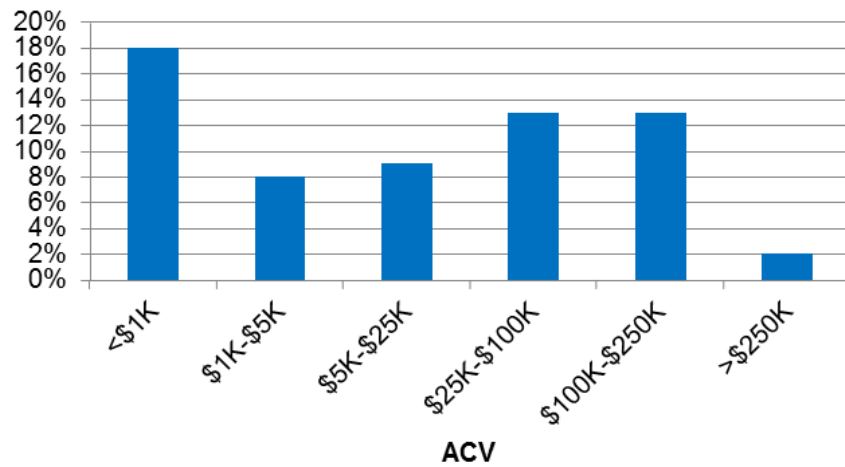


Figure - 5

Annual Gross Dollar Churn as a Function of Contract Size (Pacific Crest, 2013, p. 41)

**Figure 6**

Summary low touch, moderate touch and high touch characteristics and findings (Sesser, 2013)

Strategy	No or Low Touch	Moderate Touch	High Touch
Typical Buyer	Individual, Small Team, SMB	Varies Considerably	Functional & Senior Executives
Common Software Use Cases	Individual workflow with low enterprise-wide risk, small team, collaborative workflow, SMB	Important individual workflow, critical SMB software, collaborative workflow within one or a few teams	Individual or team workflows with high enterprise-wide risk or importance, large-scale rollout to many end users
CAC Absolute Basis	Low	High	Highest
Distribution Channels	Web	Insides Sales, Field Sales	Inside Sales, Channel, Field Sales
ACV	<\$5K	\$5K-\$25K	>\$25K
Contract Length	Monthly, Yearly	Monthly, Yearly	>\$25K
Churn	10-25%	7-20%	0-10%
LTV	Lower (Absolute Basis)	Medium (Absolute Basis)	Much Higher (Absolute Basis)

Figure - 7
Foundational Marketing Strategy for SaaS Companies Relative to Software Type

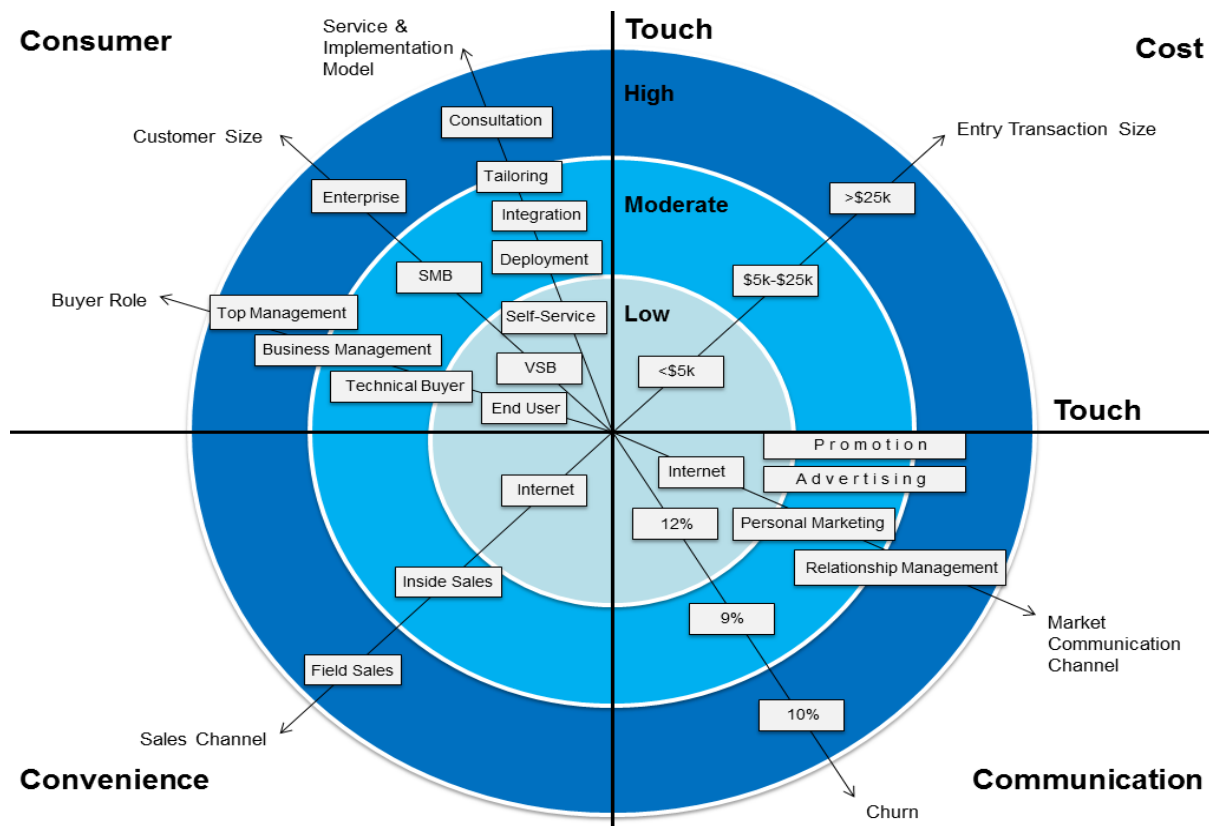


Figure - 8
Industry Performance Evaluation

Metrics	Improve	Maintain	Purpose
Funnel Metrics	Lower	Higher	Acquiring
Customer Engagement & Happiness	Lower <5	Higher >40	Retaining
Booking Metrics	Negative	Positive	Monetizing
Unit Economics	<3x >12m	>3x <12m	Monetizing

The Main Aspects of Market Communication in Poland

Dr, Sławomir Czarniewski
University of Finance and Management in Białystok
Poland

Abstract

The purpose of this work is to show mechanisms and effects of communicating customer value. The communication process aims to create and strengthen attitudes among buyers, leading to a favorable reception of products / services as well as a change of attitude from neutral to positive – creative. The basis for the preparation of the paper was the conduction of an in-depth and comprehensive study on the effectiveness and efficiency of communicating customer value. This included the analysis of available secondary data from various institutions involved in marketing communications, both in scientific and commercial applications, as well as the analysis of primary research conducted on a regional basis on enterprises operating on the Polish market. Empirical own studies were conducted among enterprises in Poland in 2011 on a sample of 17 companies.

Keywords: market communication; effectiveness; communication activities; consumer.

INTRODUCTION

The starting point for further reflection is the low level of efficiency and effectiveness of traditional marketing communication in Poland. Decrease in the efficiency of traditional communication manifests itself in several ways, including in the forms of:

a decrease in the degree of reaction from buyers due to too much contact with media transmissions,

loss in reaction of buyers due to too frequently repeated emissions of the transmission in the media,

less than a proportional increase of effect in respect to the increase in intensity of communication in the media (according to research, a one hundred percent increase in the intensity of communication causes no more than forty percent increase in effects).

The traditional way of communicating with customers no longer works the

way it did in the 1980's and 90's in Poland. During this time, it was enough to make the company visible. Meanwhile, the market has become more competitive, consumer expectations have changed, and new technologies have entered the field of communication. There has been a natural tendency for society to divide into increasingly diverse consumer groups with well-specified preferences and expectations, and there is a greater demand for offers tailored specifically to their needs. In this situation, techniques and tools used in direct communication have become much more effective.

METHODOLOGY RESEARCH

Paper contains confrontation of theory and practice - an analysis of the effectiveness and efficiency of communicating customer value. Empirical studies were conducted among enterprises in 2011 on a sample of 17 companies in Poland in the provinces of Podlasie and Warmia-Mazury. Judgmental sampling was used to select the companies to

research, and was achieved by taking into account the following stratification criteria: number of employees, revenue, legal form, and location. Sample distribution in terms of the basic criteria for differentiating the population of enterprises are shown in Table 1.

The above objectives correspond to the research hypotheses:

Polish companies use - as part of their marketing activities - quite basic marketing communication tools. These activities represent the most simple, traditional forms of communication. Such a communications system is often inefficient and thus does not produce the desired results.

The traditional system of communication is in many areas not credible and creates a false and / or unrealistic picture of the products and the company.

The undertaken communication activities are connected with the possibility of realizing the company's sales goals and thus affect the economic health of companies.

It is necessary to use - by entities operating on the market - modern marketing communications media on a larger scale. Multimedia marketing campaigns are usually more effective than campaigns run in only one medium.

THE FUNCTION OF COMMUNICATION PURSUED IN SURVEYED ENTERPRISES

Each market communication should be addressed to a specific recipient, be characterized by special attributes, provide consumers with the most important pieces of information, and use the most effective means of communication.

When it comes to public relations in enterprises, traditional communication usually refers to the promotion of their products. Public relations should create a positive image of a given company on the market and thus create a solid basis for the advertising of its products (Zammuto et al., 2007).

Generally speaking, the aim of traditional communication/advertising is:

creating needs (gap awareness and awakening the desire to own something),

showing and reminding recipients of the applicability of a particular product,

shaping preferences and providing a set of arguments in favor of a given brand,

creating a positive image of a company - the sender of the advertisement.

Retailers use a market communication system to try to influence consumer behavior (Bove and Johnson, 2009). If - knowing the purpose of communication - adult consumers are to a greater or lesser extent affected by advertising, the stronger must be the impact on children who do not yet understand the mechanisms used in advertisements. Children are particularly susceptible to manipulation because they take every message literally and cannot critically evaluate the content. According to a study conducted in three countries: Poland, Denmark, and Italy, a high percentage of children are influenced by advertising. The research was conducted in Poland in 2009 on 1200 preschoolers, under the supervision of Śląsk Medical University of Katowice (Available at: www.gospodarka.pl). Comparison studies showed that Polish children spent the most time in front of the television. As many as

68% of Polish children ask for the sweets, drinks and crisps they see on television. These are often products which nutritionists warn against consuming excessively.

As a result of the perceived risks associated with the dissemination of unwanted values through advertising, Poles are very critical when it comes to the amount of advertising they are exposed to. Based on research conducted among consumers in 2009, the results show that a large proportion of consumers would like to reduce the length and amount of advertising in the media. Those for the limiting of advertising was close to 63% of people surveyed (Radziukiewicz, 2011).

From the point of view of advertising, two elements can be distinguished within the marketing industry: advertising a product and advertising a company. Advertising a product focuses primarily on its technical advantages – its quality parameters which have the job of meeting the expectations of the buyer and encouraging them to make a purchase. The advertisement highlights the advantages of the product, it emphasizes the performance of the product, its use, quality, reliability, and competitive advantage over other goods.

Advertising a company mainly means promoting the name of the manufacturer and its brand, logo, and company traditions. The purpose of advertising a company is to:

- increase the level of knowledge of the company among advertisement recipients,

- shape the image of the company on the market.

In today's competitive market, advertising of companies plays an increasingly important role and distances - to some extent - the advertising of products.

Market dynamics and changes in the business environment are the underlying reasons for using traditional communications - advertising. Research shows that it is particularly associated with the perception of changes in competitive rivalry (Table 2.). Rivalry is indicated as a reason to take action by the highest number of advertising companies. It seems important to distinguish between two dimensions of competition. The first dimension relates to the number of existing competitors on the market, the second relates directly to the intensification of competition in terms of product range policies pursued by companies.

The increase in the number of competing entities as a reason to pursue market communication was indicated by 62,2% of surveyed companies. This was indicated more often by small firms rather than by medium and large ones, and more often accentuated by players with Polish capital. The growing competition in product range was mentioned by 43,4% of companies (Table 2.).

It should be noted that in a competitive economy a demand barrier increasingly appears, i.e. constraints on the demand side. This is a result of the long-term dominance of supply over demand - which is typical of most of today's markets. For many consumers, the market is becoming more diverse and less transparent, which sometimes results in ignorance about actual offers and conditions of purchasing products and services. These two factors were mentioned as reasons for taking action in the field of traditional communication in just over ¼ of the surveyed companies (Table 2.).

It should be noted that the different phases of the product life cycle correspond to different functions and tasks of traditional marketing communication:

informational, persuasion (encouragement) and reminding functions.

In the phase of introducing a new product on the market, the communication message should contain mainly informative elements, emphasizing the qualities of the product, its novelty and advantages over known products (Spicer and Sewell, 2010).

In the next phases (development, increase and maturity) the product becomes better known on the market and is liable to reactions from the competition. Arguments which are used by advertisers must therefore change. It is important here to give potential clients arguments for why they should select the product and incentives to make a purchase (Berry, Carbone and Haeckel, 2002). Competitive advertising may take on a comparative nature, both directly and indirectly (Śliwińska, 1999).

In the maturity and decline phases, advertising serves the function of reminding consumers about the product and the brand name of the manufacturer, leading to customer acquisition and retention. The arguments given to the customer can be of various types, such as extension of the product guarantee, uninterrupted service, a certain quality, etc.

A study conducted in 2009 show Polish enterprises focus mainly on the classic informational function of market communication (Table 3.). This function, identified as the transfer of information about the company and its market offer – was listed as the most important by more than half of the surveyed companies (51,6%), three times more than the second most popular function, that of sales support (17,6%), the essence of which is to directly encourage the purchase of advertised products.

In addition, the study indicated that more than 10% of the analyzed companies which conduct market communication

activities focus mainly on the reminding function of advertising, focusing on reminding customers of the positive experience they had with the product and the company, which is very important in creating customer loyalty. About the same number focus on the market function, assuming that the fact that they have an advertising campaign is a guarantee of stable market presence in their competitive environment and the minds of buyers.

Research shows that the last two functions, educational and competitive functions, are of little importance (each being indicated by 4% of enterprises). Little interest among firms in realizing the educational function of promotional activities may be due to the fact that its implementation requires many different activities in the field of market communication, especially in the long term. The competitive function in its pure form often does not guarantee a direct increase in sales. When we analyze each function in more detail, the sales support function has much better results in market implementation, as it contributes to an increase in sales while at the same time depreciates in some way the messages from competitors (Ichijo et al., 2007).

The need for an effective system of communication occurs not only in traditional businesses, but also in other areas, such as public health. For the proper functioning of health care facilities, it is necessary to carry out marketing activities, including communication, taking into account not only the structure and properties of the market environment of the facility, but also the size and structure of its resources.

Competition for patients, contracts, and access to funding require the use of many tools and means of communication. Especially now that there is an operating private sector for health services, efforts

are made to strengthen market position and increase the amount of attention paid to patients (Nowotarska-Romaniak, 2008). Service providers should be communication experts, advisors and partners of the patient. Right from the patient's deliberate choice of which health care facility he wants to be treated, communication is necessary. Proper communication with the patient increases the attractiveness of the facility, as well as builds its reputation. Reputation, in turn, attracts patients to use the services of a doctor's office or health care facility (Bukowska-Piestrzyńska, 2007).

THE IMPORTANCE OF THE FORM OF COMMUNICATION IN A GIVEN MARKET, IN THE OPINION OF SURVEYED MANAGERS

Having a defined budget for their communication system, a company must divide it between three main instruments of impact on a consumer: traditional communication (advertising), personal selling, and sales promotion. It should be noted that there is no universal method for the allocation of funds between these instruments. Even in companies producing similar products, decisions regarding the selection of forms of market communication may be different. The differences in the role of individual elements of the communication system, depending on the type of market they are being used in, are presented in Table 4. and Table 5.

The promotional mix is different for consumer products, and different for industrial products. Research conducted in 2011 on enterprises shows that on the market for consumer goods, the most important forms of communication are: sales promotion, traditional communication, personal selling, direct marketing and public relations (Table 4.). In the opinion of managers of the surveyed companies, the

most important form is sales promotion (this form was indicated by 88,2% of surveyed enterprises).

On the basis of research done on companies in 2011, on the industrial goods market, the following forms of communication are the most important: personal selling, sales promotion, direct marketing, traditional communication, public relations (Table 5.). In the opinion of managers of the surveyed companies, the most important form of communication on this market is personal selling (this form was indicated by 82,4% of surveyed companies).

Sales through sales representatives or employees of the sales department give the best results with expensive, complex and risky products. Although in this market visits from sales representatives are more important than traditional communication, the latter has important supplementary tasks to fulfill, such as building awareness of the product, reminding people about a product already on the market, and building the credibility of the product and the company.

CRITERIA FOR THE SELECTION OF THE MEANS OF COMMUNICATION, IN THE OPINION OF MANAGERS SURVEYED

When deciding on the means of communication, three main groups of criteria should be considered. The first of these criteria are the characteristics of the means of communication. This group includes:

- selectivity, i.e. the ability to reach specific market segments without having to cover the whole market,
- durability (service life) of the advertisement,
- extent of the impact (quantitative and geographical),

frequency of interaction, i.e. the possibility to repeat the advertisement,

the audience of the specified means of communication,

prestige of the means of communication,

the cost of using the means of communication,

the cost of production of advertisements appropriate for the means of communication chosen,

how the specified means of communication is used by its observers (reaction to advertisements, the amount of attention observers give to this means, readability, viewership, time of day with the greatest impact, etc.),

ability to assess the effectiveness of the impact of the message placed in a specific advertising medium.

The next group are the criteria characterizing the recipient of advertising - the customer, and often the whole market segment. Factors having a significant impact on the choice of advertising are the motives, attitudes and behavior of the recipients of information (Schmidt, Conaway, Easton and Wardrope, 2007).

A third particularly important criterion to be taken into account when choosing communication media is the size of the budget allocated to achieve the objectives of the company in the field of market communication.

Table 6. presents the criteria to be taken into account when choosing the services of an advertising agency, according to the managers of companies surveyed in 2011. In first place, in order of importance, in the opinion of the surveyed companies, is that of the relatively low cost

of implementing the project in the field of market communication. This criterion is indicated by 76,5% of managers surveyed. In second place, high quality of communication services was indicated. Managers also indicated as important the existence of fruitful cooperation with the agency in the past and the possibility of creative and comprehensive service delivery for communicating customer value.

Means of communication can be used to transmit information about different phenomena to the market in the form of advertising. When selling products on the market, different means of communication can be used. The most important include: newspapers, radio, television, cinema and direct mailing (letters, leaflets, postcards, brochures, catalogs). Within each means of communication, carriers of the advertisement message exist, by which a message is transmitted. Examples of carriers include broadcasts, programs, announcements, photographs or posters (Phipps et al., 2010).

When choosing a set of advertising media to utilize, their specific characteristics should be taken into account, advantages and disadvantages should be compared, and the possibility to use the appropriate means of advertising should be analyzed.

CONCLUSION

The first major change concerns business managers and their increased level of consciousness and knowledge about tools used in an analyzed market. Another important change is the increase in expenditures on direct marketing activities in the budgets of individual firms. The third change is the far-reaching transformation of the advertising agent market. Polish marketing, due to the crisis of the past couple of years, has undergone major professionalization. Only the strongest advertising agencies, in terms of economics,

were able to remain on the market, and they are continuously developing. The increase in spending on marketing communication results from the focus on sales results, and here the best suited instruments are direct and interactive marketing tools.

New companies are opening which specialize in various activities - marketing, events, mobile marketing, etc. This is due to the development of the market and of the specific skills needed within particular specializations. Another clear trend is the use of the potential of technological developments: SMS, MMS, and mobile marketing. In addition, customers have increased access to the Internet, which in many areas limits the role of the traditional postal service.

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Table - 1
Distribution of the Surveyed Population of Enterprises

Criteria	Number of Firms	Percent of Total Firms
Number of Employees		
1-24 people	7	41,18
25-49 people	10	58,82
Revenue in 2010		
Up to 25 000 000 zł	5	29,41
(25 000 000 – 50 000 000>	4	23,53
(50 000 000 – 75 000 000>	3	17,65
(75 000 000 – 100 000 000>	1	5,88
More than 100 000 000 zł	4	23,53
Legal form		
General Partnership	6	35,29
Limited Partnership	2	11,76
Limited Liability Company	6	35,29
Other	3	17,64
Location		
podlaskie province	9	52,94
warmińsko-mazurskie province	8	47,06
Total	17	100,00

Source: own research.

Table - 2

Reasons for deciding to take part in communication activities among surveyed Polish companies in 2009

Main Reasons for Communication Activities	Total	Size of Company				Source of Capital	
		5-9 people	10-49 people	50-249 people	More than 249 people	Polish	Foreign
	Percentage Indicated						
Increase in number of competing entities	62,2	64,2	65,1	59,7	58,7	62,6	59,8
Growing competition in product range among competitors	43,4	51,3	36,4	46,0	43,1	43,8	41,2
Limited demand	27,8	22,7	28,9	31,2	29,4	27,0	32,0
Little transparency on the market, ignorance of clients	26,8	27,8	26,3	26,0	27,0	26,0	30,9
Changes in consumption patterns	16,4	14,8	15,1	20,1	15,9	15,9	19,6
Low level of loyalty among consumers	14,5	16,8	16,5	13,2	16,2	15,3	10,3

Source: own research based on Nowacki (2011: 111).

Table - 3

The main function of promotional activities in researched Polish enterprises in 2009

The Basic Function of Promotional Activities	Overall	Size of the Enterprise				Origin of Capital	
		5-9 people	10-49 people	50-249 people	Over 249 people	Polish	Foreign
	Percent indicated						
Informational	51,6	56,3	50,7	51,3	46,8	54,2	38,1
Sales support	17,6	15,9	20,4	15,6	19,0	15,3	29,9
To remind	12,5	10,2	13,8	13,6	12,7	12,3	13,4
Market	10,2	10,8	9,9	10,4	9,5	9,8	12,4
Educational	4,3	4,0	2,0	5,2	6,3	3,9	6,2
Competitive	3,8	2,8	3,3	3,9	5,6	4,5	-

Source: own research based on Nowacki (2011: 113).

Table - 4

The importance of various forms of communication on the consumer goods market in the opinion of managers of surveyed companies

Form of communication on consumer goods market	Rank in terms of importance among surveyed companies	Number of companies that indicated the given form	Percentage of total companies	Average importance of the form / on a scale of 1-5, where 1 - very low, 5 - very high /, in the opinion of the surveyed companies
Sales promotion	1	15	88,2	4,41
Traditional Communication-Advertising	2	9	52,9	2,65
Personal sales	3	7	41,2	2,06
Direct Marketing	4	5	29,4	1,47
Public relations	5	4	23,5	1,18

Source: own research based on surveys conducted among companies in Poland in 2011.

Table - 5

The importance of various forms of communication on the industrial goods market in the opinion of managers of surveyed companies

Form of communication on consumer goods market	Rank in terms of importance among surveyed companies	Number of companies that indicated the given form	Percentage of total companies	Average importance of the form / on a scale of 1-5, where 1 - very low, 5 - very high /, in the opinion of the surveyed companies
Personal Selling	1	14	82,4	4,12
Sales Promotion	2	12	70,6	3,53
Direct Marketing	3	9	52,9	2,65
Traditional Communication-Advertising	4	6	35,3	1,77
Public relations	5	3	17,6	0,88

Source: own research based on surveys conducted among companies in Poland in 2011.

Table - 6
The criteria used in the process of selecting an advertising agency
in the opinion of managers of surveyed companies

The criteria taken into consideration when choosing the services of an advertising agency	Rank of each criterion in the opinion of surveyed company	Number of companies that indicated the criterion	Percentage of all companies	Average importance of the criterion / on a scale of 1-5, where 1 - very low, 5 - very high /, in the opinion of the surveyed companies
Relative low cost	1	13	76,5	3,83
High quality of the service	2	11	64,7	3,24
The existence of fruitful cooperation with the agency	3	7	41,2	2,06
Creative capabilities and complexity of services	3	7	41,2	2,06
Qualifications and skills of employees	4	6	35,3	1,77
Agency relationships with certain media	5	4	23,5	1,18
Knowledge of the market by the agency	6	2	11,8	0,59
Positive image of the agency	7	1	5,9	0,30

Source: own research based on surveys conducted among companies in Poland in 2011.

Factors Influencing High Turnover in Multinational Call Centres in Malaysia

Tanuja Krishnan
Universiti Tun Abdul Razak,
Malaysia

Joanna Claire Miranda
Sunway College, Subang Campus, Selangor,
Malaysia

M.S.B. Siddiq
Universiti Tun Abdul Razak,
Malaysia

Abstract

The call centre industry in Malaysia has been registering tremendous growth making its way to becoming the hub for the Asia Pacific region. This is most certainly a move in the right direction as it creates employment opportunities thus improvement in the country's economy. In line with this vision, companies venturing into call centres should place high standards in the running of these call centres. Unfortunately call centres are experiencing high turnover and it is not industry specific. This problem, if persists, will derail the country from its track to becoming the call centre hub of the Asia Pacific region. This research studied the factors contributing towards high turnover and proposed corrective measures to eliminate this problem. The major findings of the study were that age and level of education were insignificant in predicting employee turnover. Managers were more inclined to leave compared than non-managers. The nature of work and relationship with supervisors were insignificant in turnover intent, so was the perception of alternate employment opportunities. Despite that job hopping was a highly significant contributor and organisational commitment was the most important predictor of turnover intent. This calls for organisations to be employee focused by releasing control and subscribing to shared values to increase employee engagement.

Keywords: Call Centres, turnover intent, voluntary turnover, job hopping, job satisfaction organisational commitment

INTRODUCTION

Subramaniam (2008) defined call centres as a help desk that offers support through phone, SMS, email and chats. He further states that call centres have become the focus of many companies to have a mode of direct contact with their customers constantly. The advancement in telecommunication technology has made the cost of setting up of call centres cost beneficial (Staples, Dalrymple, Fathers & Bret nd). India was the first offshore call centre as it had the skilled manpower with the lowest cost with a 40% growth but with a 30% attrition rate, which meant lots of people needed to be constantly hired (Subramaniam 2008). This was the scenario in 2008. In 2011 however, there has been a shift in preferred call centre location, from India to Filipines mainly due

to preference for American English as many of the outsourcing comes from US and US linked companies. Call centres are becoming a big and lucrative industry. As call centres are growing, there have been numerous researches done on call centres such as Alava (2006) in Philippines looking at issues of its sustainability in the Philippines, on quality issues in Malaysia by Ananda (2010) and more studies done in UK. As call centres gain popularity too, turnover which is a global problem must be studied and rectified especially in Malaysia as manpower companies have given the percentage as high as 17% or more. Alava (2006) states in her research that Malaysia lacks manpower for call centres jobs, that and coupled with high turnover can affect the country's vision to be the call centre hub in the Asia Pacific region.

Call Centres in Malaysia

In 2010, according to business communication software firm, interactive intelligence (ININ), Malaysia was on track to becoming the contact centre for businesses in the Asia Pacific. Simon Lee the regional manager stated that Malaysia's core differentiator is its multi lingual talented pool (Kumar 2010). As India is getting ready to hang up on its call centre business (Arun 2013) Malaysia is aiming to be the call centre hub for the Asia Pacific region. However, the attrition rate is reported to be between 19% by manpower services such as Kelly Services and 24% by callcentres.net 2009 Contact Centre Industry Benchmarking Study in Singapore, Malaysia and callcentres.net 2010 Contact Centre Industry Benchmarking Study Australia.

Voluntary turnover

Voluntary turnover is a term that describes employees leaving the organisation out of their own choice. Its impact can be drastic as this type of separation is unanticipated. High voluntary turnover in any organisation will result in multiple disruption ranging from cost to rehire, wasted cost in training and more important low morale which could be more potent than the cost effect (Dess & Shaw 2001). Lee & Mitchell (1994) noted that there was no standard reason why people chose to leave the organisations that they worked for. However, past researches have cited various reasons that had contributed to voluntary turnover. According to Knowles (1964) (in Abeysekera 2007) external factors such as the labor market, institutional factors such as physical working conditions, pay, job skill, supervision come under this category, personal characteristics and feelings towards one's job have been reasons cited for leaving an organisation. As call centres have the potential to increase employment and the economy of the country, understanding the issues that causes the

high turnover is important. The potential of high returns is negated if that much more is spent on rehiring and retraining employees.

Problem Statement

Malaysia's objective to be the hub for call centres in the Asia Pacific region calls for companies to run their call centres efficiently and productively. This cannot be achieved if turnover is high. As such the correlating factors to high turnover must be analysed and be eliminated to meet this objective.

This study will identify the critical factor that contributes to employees' voluntary intention to leave. Once the factors that were contributing to employees' intent of leaving were identified, this study will then propose methods to manage to eliminate these factors.

This study will look into three factors:

Demographic factors (age, tenure, level of education, level of income and job category).

Controllable factor (Job Satisfaction). Job satisfaction is made up of satisfaction with pay, satisfaction with nature of work, satisfaction with supervision and organisational commitment).

Uncontrollable factors (perceived other employment opportunities and job hopping).

LITERATURE REVIEW

Call Centre Evolution

Call centres emerged globally sometime ten (10) years ago across all industries and became a new source of employment and job creation (Holman, Batt & Holtgrewe 2007). Holman, et al (2007) further noted in their research *The Global Call Center Report: International Perspectives on Management and Employment*, that there were two types of

business model, which were in house operation (two thirds) and the remaining is through subcontract. This research revealed that most centres handle in bound calls rather than outbound calls and most of them operated as voice only (call centre) rather than a contact centre. This was the scenario in 2007. In a later research, Morrell (2013) noted that majority of call centres are now known as contact centres and these centres use web chat as part of the service provided besides email and voice call. It is an expected evaluation as this would enable call centres to provide up to date assistance and information to its customers which increases their level of competitiveness.

Call Centre Industry in Malaysia

Frost & Sullivan (2004) (cited in Alava nd) predicted that revenue in the call centre industry will grow from US\$655 mil to US\$1.5B in 2007. They also reported that Malaysian call centres revenue in 2000 was three (3) times its size in comparison to 1999. Garcia (2013) sees a 20% increase in the numbers of calls made to the call centres in Malaysia. It is estimated that single call centre seats will grow in single digits but business processes managed from Malaysia will see a double digit growth (Garcia 2013). The potential of growth with a high turnover percentage will result in lower standards of professional services provided to clients. High turnover does not only increase cost but also increases level of stress. To be successful and be able to reach its goal to being the call centre hub, turnover reasons must be studied and solutions implemented.

Causes of Turnover

Many researches have attempted to study the contributing reasons for high turnover. Two categories of reasons, pay and career (Belt 2001; Taylor and Bain, 1999) and satisfaction and commitment (Frenkel, Korczynski, Shire and Tam,

1999; Ulrich, Halbrook, Meder, Stuchlik, and Thorpe, 1991) were identified as antecedents to subordinate intention to turnover, which in itself has been found to be a reliable predictor of actual turnover (Griffeth, Hom and Gaertner, 2000).

The lack of career path available to agents has been another cause cited for employee turnover in call centres (Belt 2001). Belt, amongst others (Stanworth 2000; Taylor and Bain, 1999) see call centres as relatively 'career less', with employers accused of providing large numbers of low skilled, repetitive, 'dead-end' jobs. Pay rates have also been associated with turnover rates. Other studies report high levels of turnover due to employee stress and dissatisfaction (Houlihan 2001) and the absence of managerial strategies designed to achieve high commitment from staff (Frenkel, et al. 1999). Not surprisingly, employee organizational commitment has also been correlated with subordinate intention to turnover. Deery and Walsh (2001) found that employees in an outsourced call centre who had low levels of commitment also had high levels of intention to turnover.

According to Moore (2002), job stressors and lack of job satisfaction are among the factors that contribute to people's intention to quit their jobs. Whether these reasons are valid for the Malaysian scenario has yet to be tested.

Hypothesis Development

Based on the background and literature review, these hypothesis were developed.

Demographic Factors

H1: Demographic factors are associated with turnover intention

H1a: Age is negatively associated with turnover intention.

H1b: Males have greater intention to leave than females

H1c: Level of education is positively associated with turnover intention.

H1d: Level of income is negatively associated with turnover intention.

Controllable Factors

H2: Job satisfaction is negatively associated with turnover intention.

H2a: Satisfaction with pay is negatively associated with turnover intention

H2b: Satisfaction with nature of work is negatively associated with turnover intention

H2c: Satisfaction with supervision is negatively associated with turnover intention.

H3: Organizational commitment is negatively associated with turnover intention.

Uncontrollable Factors

H4: Other employment opportunities are positively associated with turnover intention.

H5: Job hopping is positively associated with turnover intention.

Controllable versus Uncontrollable Factors

H6: Most of the factors contribute to employee turnover in call centres are controllable.

METHODOLOGY

Research Design

This research was targeted to call centre agents. They had to feel secure that

their confidentiality will not be compromised as such they did not have to identify themselves or their department.

The areas that were tested were job satisfaction (satisfaction with pay, satisfaction with nature of work, and satisfaction with supervision), organizational commitment, job-hopping, perceived alternative employment opportunities, and turnover intention. In addition, the questionnaire included questions on demographic characteristics of the respondents.

Questionnaire Design

The questionnaire used was from a previous research with minor modifications. It was divided into two (2) sections. Section A was on the demographic information that had to be filled in. Section B was subdivided further. The first part was on Job Satisfaction consisting 9 questions. Questions 10 to 17, was on Organisational commitment, questions 18 to 20 was on job hopping, questions 21 to 23 was on turnover intentions, finally questions 24 to 28 was on perceived alternative employment opportunities. All of Section B questions were designed into 5 level LIKERT scale, the lower digit (1) being the lowest agreement and the highest digit (5) being in most agreement or most suitable.

Data Collection

This survey was done through convenience sampling with the cooperation of two multinational organisations that operated call centres in Cyberjaya, Malaysia. As the study was not concentrated on any specific industry, these organisations were from different industries. Each organisation were given 125 questionnaires. It was administered through the call agents supervisors, five (5) in each organisation. The supervisors' roles however were limited to distributing the questionnaire to all the agents and collecting the completed questionnaire that

was dropped into a survey box that was provided. The box was not tempered with as such the outcome of the survey is reliable.

DISCUSSION AND FINDINGS

Despite the care and confidentiality, only a total of 194 surveys were received, 77.6% rate of return.

Respondents Profile: Of the 194, 120 were females and the remaining 74 were male respondents. 115 of the respondents were in the age between 21 and 30 years old. 64 participants were in the range of 31 to 40 years old, 10 were in the range of 41 to 50. A small number, 5 respondents were below 20 years. Majority of the respondents were tertiary educated, 51 %, the second highest being STPM/Diploma level. The highest income bracket was in the range between RM1501 and RM3000, recording a 53.6% and the second highest at 35% was in the range of RM3001 to RM 5000. As for the length of service, 68.6% have been in service between 1 – 5 years, 25.3% have been in service for less than a year and 6.1% between 6 – 10 years.

Cronbach's Alpha: This is the measurement of internal consistency reliability of variable. If the reading is above 0.70, it is considered reliable. Details are shown in Table 1.

Insert table 1

All variables with the exception of Organisational Commitment and Turnover intention yielded results above 0.70. Therefore the overall results are reliable.

Hypothesis Testing

Multiple regression was used to test Hypotheses 1 to 5, whereas Hierarchical regression analyses was used to test Hypotheses 6.

Hypothesis 1 : That tested if demographic factors are associated with

turnover intention showed that out of the four (4) demographic factors, two (2) were significant in the call centre industry as detailed below.

Hypothesis 1a : That tested if age is negatively associated with turnover intention, received a weak support.

Hypothesis 1b : That tested if males have greater intention to leave than females, was highly supported in this case.

Hypothesis 1c : That tested if level of education was positively associated with turnover intention, received a poor support. The relationship between tenure and turnover intention was significant in this case.

Hypothesis 1d : That tested if the amount of income was negatively associated with turnover intention) was supported.

Hypothesis 2 : That tested if job satisfaction was negatively associated with turnover intention) received a modest support.

Hypothesis 2a : That tested if satisfaction with pay was significantly negatively associated with turnover intention was not supported.

Hypothesis 2b : Tested if satisfaction with nature of work is negatively associated with turnover intention was not supported in this case.

Hypothesis 2c : That tested satisfaction with supervision was statistically significant in

- the predicted direction in this industry.
- Hypothesis 3 : That tested if organizational commitment is negatively associated with turnover intention, received a strong support.
- Hypothesis 4 : That tested if other employment opportunity was positively associated with turnover intention, received a weak support.
- Hypothesis 5 : That tested if job-hopping was positively associated with turnover intention received good support in the call centre industry.
- Hypothesis 6 : Contrasted controllable and uncontrollable turnover that tested to what extent of controllable turnover in the call centre is greater than the extent of uncontrollable turnover. To detect unique variances contributed by three sets of factors (demographic, controllable, and uncontrollable), each set of factors was entered once in the first step and another in the last. When uncontrollable factors were entered in the first step, the variation ranged from 13.5% to 24.1%.

However, the variance was at 13.2% in the industry when uncontrollable factors were entered in the last step. The variance by controllable factors when they were entered in the first step ranged from 44.9%. The variance by controllable factors, when they were entered in the last step, was still very substantial, 37.6% in the total sample. It is obvious from the

above analyses that unique variation due to controllable factors is much greater than uncontrollable factors. Thus, Hypothesis 6 received a strong support.

The above findings suggest that age and level of education are not significant in predicting employee turnover in call centres. In other words, there is not much evidence for the popular belief that younger and more educated call centres staffs have greater intention to leave.

Contrary to initial prediction, managers showed greater intention to leave than non-managers in this industry. Satisfaction with pay was also not so important in call centre industry.

Satisfaction with nature of work was insignificant so was the effect of supervision. As discussed later, organizational commitment was the most important predictor of turnover intention in this study.

Other alternative employment opportunities were a poor predictor of turnover intention at best. On the other hand, it is noted that job-hopping was highly significant in the industry.

While controllable factors (satisfaction with pay, satisfaction with nature of work, satisfaction with supervision, and organizational commitment) contributed a unique variance of 37.6% in the turnover model for the total sample, uncontrollable factors (job hopping and other alternative employment opportunities) added a meagre 5% of the unique variance. The unique variance of demographic factors (age, gender, tenure, level of income) was even smaller than uncontrollable factors (3.8%).

Findings of the study also suggest that controllable factors contribute much more to the employee turnover problem than uncontrollable factors. It was noted that that five factors - age, education, other alternative employment opportunities, job-

hopping, and satisfaction with pay – are an integral part of informal theories on employee turnover in industry such as call center.

The classification of turnover antecedents into demographic, controllable, and uncontrollable factors provides a good diagnosis of the employee turnover problem.

Implications of the Study

Organisational commitment is the most significant factor contributing to turnover. Policy makers and managers should look into this to reduce the high turnover and making the needed changes in the organisation such as stated by Aryee (1991) allowing proactive socialization of employees and as Brazeal (1993) had mentioned in her research which is to gradually move away from control-based management philosophy to commitment-based philosophy, and by managing appropriately the organizational culture.

Limitation

Although great measures were taken in collecting the data, it must be noted that the Malaysian culture is such, fear of non-confidentiality and feelings of insecurity will prevail, as such the results may not reflect the truthful opinion of participants. The accuracy of the data depends on participants' responses. Furthermore, Call Centres Industry Benchmark Report 2003, noted the numbers of call centres in Malaysia to be 575. This number would have increased given the percentage of growth rate in this industry. As such, the survey of 2 call centres will not be reflective of the industry.

Future Research

This survey can be used as a foundation to further expand the studies to more call centres in Malaysia. This will enable the industry to improve the environment to

meet employee requirement which then will create a stable working environment. This study can also be further segregated to types of call centres, being in bound or outbound, and further breakdowns as in inquiry handling, problem solving and other services. Subsequently this study can be done cross country to help the industry globally.

CONCLUSION

Call centre is a lucrative business and is on a growth scale. Malaysia aiming to be a call centre hub with its advantage of multi-talented skill should ensure quality service to its customers. This cannot be achieved if call centre agents' turnover is high as it will impact the depth of knowledge these agents will be able to provide its customers. The possibility of new call centres emerging is high, leading to job hopping. As such the management of these call centres should ensure that they create and maintain a work atmosphere that could promote employee engagement to maintain a congenial environment.

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Table - 1
Reliability Test

Job Satisfaction	
Cronbach's Alpha	N of Items
.936	9
Organizational Commitment	
Cronbach's Alpha	N of Items
.415	8
Job-Hopping	
Cronbach's Alpha	N of Items
.823	3
Turnover Intention	
Cronbach's Alpha	N of Items
.621	3
Perceived Alternative Employment Opportunities	
Cronbach's Alpha	N of Items
.927	5

Comparison of long- and short-term Capital Market Effects of Strategic Divestments

Visar Krasniqi

WHU-Otto Beisheim School of Management Vallendar,
Germany

Abstract

Increasing strategic divestment volumes in the European Union provoke the question on post-divestment efficiency. Previous quantitative analyses in divestments usually are restricted to the immediate aftermath of the deal and usually find significant positive cumulative average abnormal returns (CAR). To date the sustainability of shareholder value effects after divestments has not been questioned.

Referring back to a previous contingent study on long-term return effects of divestments from the perspective of the divesting corporation, the present study asks for the interaction of short and long-term effects. Both studies develop and apply a novel dynamic methodology of CAR calculation based on time-varying alpha and beta factors and CAR standardization to average period-related daily values. This approach allows calculating and comparing cumulative average returns for unlimited time windows.

The study provides an overview on so far research in short term post-divestment abnormal returns and adds the following insights for a sample of 62 companies from the global telecommunication market: (Daily) CARs in the divestment period [-100;+14] exceed (daily) CARs in the prolonged pre-divestment period [-702;-100]. The positive effect starts from day 60 before deal announcement cumulates between day -1 and day 1 after and ebbs off to virtually 0 in the first week after the deal. Short-term CAR values in the divestment period are no general indicator for long-term post-divestment performance. Market expectations in the immediate divestment phase exaggerate significantly. Short-term CAR values after divestments are no general reliable predictors of long-term post-deal performance. However, CARs realized between pre-divestment day – 60 and – 41 are an indicator of post divestment performance in the first two years after the divestment.

Several companies perform worse after the divestment than before in the long run. Applying a case study approach, the study shows, that when divestments fail from a shareholder perspective, frequently adverse external influence factors (e.g. governmental regulations or a global recessive corporate development) have been fundamental causes for the divestment decision.

This analysis is limited in validity and significance since the size of the sample is rather small. CAR-centred approaches provide no information on the moderating factors codetermining divestment success.

Keywords: Strategic Divestments, Shareholder value, comparison long-term vs. short-term market effects, telecommunication industry, event study, cumulative average abnormal returns (CAR) standardization.

INTRODUCTION

Strategic divestments. Divestment is a process opposed to investment and implies the selling of an asset and more frequently corporate shares or whole

corporations (Brauer & Schimmer, 2000, 84; Madhavan, 2010, 1347). From the perspective of the buyer, the deal is a merger or acquisition, from the seller's perspective the transaction is a divestment. Following Mintzberg et al.'s (1976, 246)

and Eisenhardt's & Zbaracki's (1992, 17) definition of strategy, strategic divestment implies that the divestment decision is "important in terms of the actions taken, the resources committed or the precedents set" i.e. is unique, well planned and has long-term effects. Controversial statistics on global strategic divestments suggest low market transparency and a dynamic market development: From 1987 until 2001 divestiture transactions in the European Union were on a continuous increase and deal numbers almost quintupled over that period (Brauer, 2011, 3). Since the collapse of the World Trade Centre on Sept'11, 2001 and the burst of the internet bubble in 2002 the world and capital markets have changed (Ederington & Guan, 2010; Wachter, 2008). They are characterized by increased volatility and uncertainty – a trend that equally influences the market for corporate divestments. Since 2001, deal volume was declining and was down 14 % from 2011 to 2012. On the other hand, deal sizes have been growing steadily. In 2012 alone they increased by 16 % (from 129 to 149 million US-dollars (Deloitte, 2013, 2). For 2014, another increase in divestments is expected according to a global survey among 600 senior executives conducted by British Economist Intelligence Unit. Three quarters of the respondents intend to augment their divestment activity in the years to come (EIU, 2013)

Study contextualization and research questions. The paper series approaches the key question, "How can companies augment their market value sustainably by strategic divestments?" and applies an integrative research concept of event study, case study and management survey. This paper now bridges the gap between these long-term results of strategic divestments in the telecommunications business and previous results on short term divestment effects,

asking: What is the relationship between short and long term market performance effects of strategic divestments?

The following part questions split up this complex topic into manageable bits apt for statistical evaluation:

Do short term CARs in the divestment period exceed CARs in the two pre-divestment years? (H1)
Are short term CAR values after divestments significantly lower than long term CAR values after divestments? (H2) Brauer & Schimmer (2010) suggest this assuming that time elapsed since the divestiture is positively related to CARs.

Are short term CAR values after divestments an indicator for long-term CAR values i.e. to what extent is short term market performance correlated to long-term market performance? (H3).

Do disappointing divestiture processes that show lower returns in the post-divestment phase than in the pre-divestment phase and lower CARs in the post-divestment phase than in the divestment phase result from exceptional external developments or management mistakes that cause divestment failure? (H4)

The fourth question is assessed qualitatively in the form of case studies and prepares the discussion of a further paper, which will evaluate management and industry specific moderating parameters that take effect on short and long term stock market performance after strategic divestments.

Contextualizing this paper in previous academic research, it expands previous methodologies and insights. Short and long-term abnormal returns after divestments for the first time are compared

for the same data set. Short-term results are comparable to previous data for other industries (Mentz & Schiereck, 2008; Rustige, & Grote, 2008) and for M&As in telecommunications (Rieck & Doan, 2008) since a comparable method is applied. The impact that the time elapsed after divestitures has got on abnormal returns is examined in a novel approach which invites further research on the dynamic effects of divestments (as initiated by Brauer & Wiersema, 2012 and Brauer & Schimmer, 2010). From a management perspective, this paper allows conclusions on the extent to which market expectations in divestments are fulfilled or disappointed. The qualitative analysis of outliers exemplifies which management errors and external impacts cause di-vestment failure and should be avoided for novel divestment processes.

LITERATURE REVIEW

Perspectives on motivations for strategic divestments

The above overview brings results of the evaluation of studies assessing abnormal returns after divestments and M&As in the short observation period together. Altogether 20 empirical studies have been evaluated, but only 18 are contained in the tables, since Middlemann & Helmes (2005) as well as Pagano & Panetta (1998) do not use CARs as a measurement instrument and accordingly are not immediately comparable. The overview presents short-term results only, since results for the long run are not comparable directly. Altogether, the studies span a period from 1978 to 2010. Comparing the methods and insights of previous studies focussing on cumulative average abnormal returns of M&As and divestments, the following points are of interest:

Most studies find positive CARs in the environment of the events. Mathesius

(2002) evaluation of German DAX corporations between 1998 and 2000 is the only example for significantly negative CARs.

According to table 1 CARs in the proximity of M&As are between -0.37% (Rustige & Grote) and 2.02 % (Mentz & Schiereck, 2008). Short-term CAR peaks usually are observed on the announcement day or one day before or after. The observation period usually comprises not more than 20 days before and after the event. Only Chi et al. (2001) evaluate the prolonged period of six months before and after the event comparatively. CARs resulting from M&A activities are rather homogenous independent of the business and the location of the activity. Focussing and international M&As by tendency evoke more positive market reactions than national and conglomerate M&As (Rustige & Grote, 2008; Rieck & Doan, 2009).

As compared to M&A research, CAR methods and results in divestment research are much less homogenous: Short-term observation time frames vary from 11 day to about 30 days around the event. Peak CARs in the immediate environment of the divestment are between -30 % (Mathesius, 2007) and plus 4.99% (Bartsch, 2010). To some extent the broad variety of observed divestment types, time frames and periods of analysis is responsible for this significant divergence: Mathesius (2002) observes a pure German sample in the period of the burst of the internet bubble. Bartsch (2010) on the other hand registers maximum CARs for purely strategic divestments, preselected according to differentiate criteria. A direct comparison of the studies is impossible, since the observed time frames overlap strongly and there is no common standard to compare branches and countries.

A comparison of the meta-analytic results of this study and previous reviews

is of interest, to possibly find out regularities concerning

CAR development in the environment of divestments: Brauer and Schimmer (2010, 87) assess divestments between 1962 and 2000 and equally find predominantly positive CARs between 0.2% and 11.3 %, with only one exception of – 25 %. This result qualitatively corresponds to this re-view. There is no generalizable trend with regard to the model applied, the event window or the period in which the sample was collected. Renneboog's (2005, 45-47) evaluation of MBOs and further public to private divestments finds much higher CARs between 20 and 40 % in the period 1973 to 2003. Since Brauer & Schimmer (2010) and this review correspond on divestments in general, the reason for the higher returns observed by Renneboog probably is the focussing on buy-outs. Probably shareholders expect particularly poignant incentive, transaction cost and speculation effects from this form of divestment.

In short, there are significant differences between divestment returns depending on the type of the divestment. According to this review, the stock price effects of divestments are much more differentiate and poignant than for M&As. Previous studies have not managed to derive a common rule, when and under what conditions stock prices react to divestment in which way. This implies that in spite of the broad variety of available analyses on divestment-related CARs further business-specific and country-specific evaluations are necessary to fully understand the stock price effects of divestitures.

Further, the interdependence of short and long run stock return effects of divestments has not been sufficiently investigated so far:

CAPM based considerations as well as the critique of the CAPM suggests that short and long-term returns after divestments should be correlated positively. This assumption however has not been tested quantitatively in previous empirical studies on divestments: Only few studies compare short and long term CARs after divestments at all. However, these results for the short and the long run are hardly comparable, since for the long run methods that are incompatible with the CAR approach have been chosen: Pagano and Panetta (1998) refer to balance key figures. Krishnaswami for the long run compares the frequency of equity issues. Middlemann and Helmes (2005) rely on a single case study.

None of these methods provides reliable results concerning the development of the shareholder value. For exchange-traded companies the stock price and dividend yield is the main relevant performance measures. A central reason for the failure to refer to stock prices in the long observation period is that reliable return measures cleared from other influences are missing. The standard CAR method is not applicable for prolonged observation periods, since it assumes constant beta and alpha factors, which is not a realistic assumption in dynamic capital markets.

In sum: So far, no study using the CAR approach has combined the short and long-term perspective of divestment-based stock price development: The relationship between short and long-term market performance effects of strategic divestments has not yet been quantified. No method to combine short and long-term valuation consistently from a statistical perspective has been developed so far.

EMPIRICAL RESEARCH METHOD

Bringing the points of critique on previous studies together the initial

research question: “What is the relationship between short and long term market performance effects of strategic divestments?” so far has not been answered.

The following empirical evaluation closes this research gap for the telecommunication business. Departing from previous insights four research hypotheses are derived to assess the above core question in a differentiate way:

Both, short- and long term studies find mainly positive performance effects of divestments (Brauer & Schimmer, 2010, 87 and table 1 to 3 of this paper). Hence it is assumed that

H1: Short term CARs in the divestment period exceed CARs in the two pre-divestment years significantly.

Brauer & Schimmer (2010, 92) further assume that time elapsed since the divestiture is positively related to CARs. If this assumption fits for the telecommunication data-set the long-term CAR values should exceed the short term CAR values. From this results

H2: Long-term CAR values after divestment are significantly higher than short-term CAR values after divestments. The preliminary considerations suggest that under the conditions of the CAPM as well as in imperfect markets, short-term positive return effects should continue in the long run. So far empirical studies seem to confirm this assumption. From this results hypothesis 3:

H3: Short term CAR values after divestments are an indicator for long-term CAR values after divestments, i.e. short term market performance is significantly positively correlated to long-term market performance. Since most previous studies find positive

divestment-related CARs, it is assumed that for the present sample few companies diverge from H2 and H3, i. e. show higher CARs in the pre-divestment period than in the divestment period and the post-divestment period. For such divestment processes, obviously market expectations on divestment announcement are not met in the long run. It hence seems worthwhile to examine these disappointing outliers on a case-study basis qualitatively, which results in hypothesis 4:

H4: Divestiture processes of outliers displaying significantly lower returns in the divestment phase than in the pre-divestment phase and significantly lower CARs in the post-divestment phase than in the pre-divestment phase are characterized by exceptional external developments or management mistakes that cause divestment failure.

Statistical method

In this section we develop the statistical methodology to test H2 to H2. Standard and dynamic CAR evaluation:

Previous studies assessing shareholder values for comparatively short periods of 1 to 5 years usually refer to discrete stock returns on a daily basis:

$$R_{it} = \frac{K_{it} - K_{it-1}}{K_{it-1}} \quad (1)$$

The market model as defined by Markowitz (1959) and Sharpe (1963) has established as a common reference standard for the assessment of fair returns of a stock as compared to a reference index. It is employed by Bartsch (2005, 139), Brauer & Wiersema (2012), for instance and its empirical relevance has been proven in many empirical studies. The market model estimates the expected return $E(R_{it})$ of stock company I in time point t as a linear function of the return R_{Mt} of the reference index M in t as follows:

$$E(R_{it}) = a_i + b_i R_{Mt} + \varepsilon_i \quad (2)$$

where

a_i describes a constant development of R_{it} independent of the stock index, b_i measures the sensitivity of the stock return to the development of the return of the market index, i.e. represents the systemic risk the stock is exposed to. The residual variable ε_i describes an idiosyncratic risk component enters only which by expectation equals zero in the long run (Francis & Kim, of the stock, dependent on firm specific influchapter 12.5).

Given the returns of an index and of a stock for a certain time period the b_i and a_i values for the expected return of the stock can be estimated in an ordinary-least-squares regression.

The abnormal return is the extent to which the observed return exceeds the expected return:

$$AR_{it} = R_{it} - E(R_{it}) \quad (3)$$

Cumulated abnormal returns for a period starting at day $t = u$ and ending at day $t = z$ now can be calculated by just adding up daily returns from u to z (compare Bartsch, 2009, 139-140): $CAR_{[u;z]} = \sum_{t=u}^z AR_{it}$ (4)

The initial overview (table 1 to 3) illustrates that this standard approach is established for the analysis of short-term CAR analysis.

Standard CAR models however are inadequate for prolonged periods of analysis, since they assume stable a_i and b_i factors. With time progressing, however, alpha and beta factors, i.e. the expected development of the stock price depending on the index varies, for instance due to fundamental changes of corporate competitiveness or due to changes of investor's expectations on the development

of this particular stock as compared to the market. For this reason, previous studies on long-term value effects of divestments usually refrain from the CAR approach and deviate to management surveys (Anslinger et al, 2003, Schiereck & Stienemann, 2004), accounting based evaluation (Hanson & Song, 2003, Cristo & Falk, 2006; Chen & Guo, 2005) or other capital market performance measures (Warner et al, 1988 explores the volatility development, Braun & Latham (2009) assess the market capitalization).

This study however has modified the CAR approach and made it applicable to long-term stock performance analysis as follows: To add a dynamic development to the basic market model, a_i and b_i are assumed time-varying with a lag l . The lag describes the horizon before the measurement of R_{it} and R_{Mt} that is considered to determine the factors. Mathematically the time-varying market model results as:

$$E(R_{it}) = a_{i;l} + b_{i;l} R_{Mt} + \varepsilon_{i,l} \quad \text{with } E(\varepsilon_{i,l}) = 0$$

A dynamic formula for abnormal returns results as: $AR_{it} = R_{it} - [a_{i;l} + b_{i;l} R_{Mt}]$

Dynamic abnormal returns by stock can be calculated on a daily basis for a certain reference index and a reference period of lag l .

Dynamic abnormal returns, in contrast to conventional abnormal returns are adequate for the assessment of infinitely long observation periods of time since b_i and a_i are not fixed but adapt dynamically with progressing time.

Comparative evaluation of short and long term CARs. The modified dynamic CAR model equally is apt for short-term analysis of CARs and is even more precise than the static CAR model: In fact, the moving method of calculating alpha and beta factors results in small daily

adjustments of the expected return based on the lag. This assumption is more realistic than prognosis of the expected return based on static alpha's and beta's since the expectation of market participants is subject to continuous development and change, which is reflected in the changing alphas and betas.

The following evaluation applies the dynamic CAR model to the short and long-term analysis of cumulated average returns before, in the immediate timely environment of and after strategic divestments. The time frames for the pre-divestment period v , the divestment period d and the post-divestment period n with sub-periods n_1 to n_7 of 100 days each have been determined in study 1 of this paper series as follows:

Figure 1: Tripartite time frame of analysis

Figure 1 omitted the blue divestment period, which now is meant to be examined in detail and in comparison to the pre-divestment period v and the post-divestment period n . The divestment period is sub-divided in part periods as follows:

Figure 2

Figure 2: Subdivision of immediate divestment period

The divestment period d comprises 100 days before to 14 days after the divestment announcement is subdivided in part intervals comprising $dtot$ [-100;+14], $d1$ [-100; -81]; $d2$ [-80; -61]; $d3$ [-60; -41]; $d4$ [-40; -21]; $d5$ [-20; -1]; $d6$ [-1; 1]; $d7$ [1; 6]; $d8$ [7;13]. The figures in brackets indicate the days from the divestment comprised in each part period. These part intervals in the following are compared to the pre-divestment period v and the post-divestment periods $ntot$, n_1 to n_7 .

The part intervals of the divestment period d have been chosen in accordance with previous short term CAR evaluations of divestments partly. Brauer & Schimmer

(2010), Brauer & Wiersema (2012) and Borisova et al (2011) find abnormal return peaks for the very narrow time frame of -1 to +1 days around the announcement. Short-term abnormal returns usually are evaluated until 10 to 30 days after the announcement. In accordance with study 1 of this series here 14 days after the announcement are considered. However, previous studies however do not consider the extended period of - 100 to -20 days from the announcement, although abnormal stock price reactions in this period seem plausible: Strategic divestments frequently are considered or planned some time ahead of the official announcement. Inefficiently working units usually are monitored for a prolonged period of time and are reported on quarterly. This suggests that investors might anticipate impending divestments up to a quarter before the definite deal announcement. The extension of the influence window of strategic divestments to a time frame of - 100 to + 14 days from the deals accordingly extends the horizons of previous research.

Empirical data

Choice of business and companies. To evaluate H3 to H6 a sample from the telecommunication business is referred to for which a long- term analysis (time span: day -720 to + 720 from the divestment omitting day - 100 to + 14) of abnormal stock returns after divestments was conducted in study 1 of this paper series. Stock market reactions to global telecommunication divestments are of particular interest, since, due to radical technological innovation in recent years (growth of the web 2.0 and mobile/smart phone technologies) business dynamics and competition has been growing significantly (Deloitte, 2013/II). From an investor's perspective, the timing of stock market activities accordingly is of particular relevance. Typical stock price development

patterns in the environment of divestment deals are an essential element of strategic portfolio management.

A sample of 62 strategic divestment-events in global telecommunications exceeding 300 million US\$ have been identified for the period 2005 to 2011 and 52 events, for which adequate stock price series are available have been evaluated. To calculate short term CAR values the study extracts the closing rates 100 days before the event to 14 days after, compares, and calculates the abnormal returns as compared to the ETF iShares Global Telecom as a reference.

The dynamic CAR calculation is conducted as follows: The stock rates are listed by trading day for each firm and applying the excel- function `SVERWEIS()` the rates of the reference index iShares global telecom are assigned to each stock by trading day. Then daily arithmetic stock and index returns are calculated and missing values for the index i.e. days on which the stock was traded while the index was not, are closed by filling in a zero-return. Then b_i , a_i , $E(R_i)$ and AR_i are calculated. Average daily abnormal returns are cumulated for the periods CAR_v , CAR_d , CAR_{d1} to $d8$ as well as CAR_n , and CAR_{n1} to $n7$. To compare the values for the individual periods they are standardized by dividing by the number of days each period comprises. That is for each part period an average (daily) abnormal return is calculated and referred to as "standardized CAR" in the following.

Concretization and testing of H1 to H4. The hypotheses H1 to H3 now are defined in more detail:

H3: assuming, that short term CARs in the divestment period exceed CARs in the two pre-divestment years significantly, is concretized as follows:

The standardized CARs for the divestment sub-periods $dtot$ [-100;+14]; $d1$ [-100;-81]; $d2$ [-80;-61]; $d3$ [-60;-41]; $d4$ [-40;-21]; $d5$ [-20;-1]; $d6$ [-1; 1]; $d7$ [1;6]; $d8$ [7;13] are each compared to the standardized CAR of the v-period v [-720;-100] using the t-test for paired samples. It is assumed that standardized CARs in each of the divestment sub-periods exceed the standardized CAR_v measured for the pre-divestment period.

H4: assuming that long-term CAR values after divestment are significantly higher than short-term CAR values after divestments is concretized as follows:

The standardized CARs for the divestment sub-periods $d0$ [-100;+14]; $d1$ [-100;-81]; $d2$ [-80;-61]; $d3$ [-60;-41]; $d4$ [-40;-21]; $d5$ [-20;- 1]; $d6$ [-1;1]; $d7$ [1;6]; $d8$ [7;13] are each compared to the standardized CAR of the n-period n [+14;-714] using the t-test for paired samples. It is assumed that standardized CARs in each of the divestment sub-periods exceed the standardized CAR measured for the post-divestment period n . The mathematical approach of the t-test is briefly explained: The t-test examines the zero-hypothesis that the means of the CAR-values in the pre- divestment period (H3) and in the post-divestment period (H4) equals the means of the CAR values in the divestment period and its sub-periods by calculating the t- value as follows (Brosius, 2011, 489):

$$t = \frac{\bar{D}}{\sqrt{\frac{s_D^2}{N}}} \quad (5)$$

\bar{D} is the average difference between the two CAR-value series, s_D is the standard deviation of the individual differences between the CAR values v and N is the sample size. When the difference between the CAR-values is low, t is near zero, H_0 has to be accepted. To verify H3 and H4 respectively the difference \bar{D}

should be possibly high. SPSS indicates the error probability of falsely accepting H0 though H and H4 respectively are true in a significance value, indicating the %-error probability. The test significance should be possibly low to accept H3 and H4. Here H3 and H4 are accepted for an error probability level below 0.1 (i.e. 10 % error probability).

To test H5 CAR values for the short and the long run are correlated and the significance of the correlation is tested conducting a Chi² test. For significant correlations at the 95 % level H5 is accepted. Referring to the part periods H5 is concretized as follows: The correlations of the CARs for the divestment period d0 [-100;+14] as well as d1[-100;-81]; d2[-80;-61]; d3[-60;-41]; d4[-40;-21]; d5[-20;-1]; d6[-1;1]; d7[1;6]; d8[7;13] is compared to the total post-divestment period n [+14;+714] and each of the post-divestment part-periods n1 to n7 comprising n1[+14;+114]; n2 [+115; +214]; n3 [+215;+314]; n4 [+315;+414]; n5 [+415;+514]; n6 [+515;+614]; n7 [+615;+714]. H5 is accepted for each period pair, if a correlation significant at the 95 % level is measured. For the test of H5 the correlation coefficient according to Bravais- Pearson is calculated for each pair value series. It is derived from the covariance, which is standardized by dividing it through the product of both variances. While the covariance takes values between – and + infinite. The Pearson correlation coefficient ranges between -1 and 1. A value of 1 describes a complete positive correlation (Maurer, Albrecht 2005, 105). The correlation significance is examined in a chi²-test. Chi² is the so called measure of association

$$X^2 = \sum_i \sum_j \frac{(h_{ij}^0 - h_{ij}^e)^2}{h_{ij}^e}, \text{ with } h_{ij}^0 = \text{observed,}$$

absolute frequency of the combination of

the characteristics $X = i$ and $Y = j$, h_{ij}^e = absolute frequency of the combination of the characteristics $X = i$ and $Y = j$, expected in case of statistic independence. For $\chi^2 = 0$ there is no correlation, for $\chi^2 > 0$ a correlation exists. The hypotheses underlying the Chi² test are: H0: $\chi = 0$: the value rows are

$$X_{0.95}^2 < X_{\text{error}}^2 = \sum_i \sum_j \frac{(h_{ij}^0 - h_{ij}^e)^2}{h_{ij}^e}$$

correlated. H1: $\chi \geq 0$: the value rows are not significantly correlated. The decision rule is (Duller, 2007, 135).

H6: proposes that divestiture processes displaying significantly lower returns in the post-divestment phase than in the pre-divestment phase and significantly lower CARs in the post-divestment phase than in the pre divestment phase are characterized by exceptional external developments or management mistakes that cause divestment failure. Relevant underperforming companies first are selected conducting a simple t-test.

To identify outliers displaying significantly lower returns in the post-divestment phase than in the pre-divestment phase, the difference of the standardized CAR_{dtot} values and the standardized CAR_v values is calculated as a variable "DminusS" in SPSS. To identify outliers displaying significantly lower CARs in the post-divestment phase than in the divestment phase, difference of CAR_n values and CAR_d values "NminusV" is calculated. For outliers relevant to an analysis of H6 both values "DminusV" and "NminusV" have to be significantly negative i.e. below zero. To test for significance for both value series a simple t-test is conducted in SPSS that determines the lower confidence intervals for the test value 0. Now the difference DminusV and NminusV are compared to the lower confidence intervals for each of

the companies in Excel. Companies are chosen for a case study analysis, if both values are significantly negative, i.e. CARs in the divestment period are below the pre-divestment period and CARs in the post-divestment period are below CARs in the pre-divestment period.

EMPIRICAL RESULTS

Distributions of CARs for the short run

While among the pre-divestment CARs in the period of 720 to 100 days before the event only 48 % are positive, in the immediate divestment phase 54 % are positive. In the prolonged post-divestment phase n comprising day 14 to 714, even more (56%) of the CARs are positive. This observation suggests that divestments are received positively by market participants and for the majority of divesting companies market participants' expectations are confirmed in the long run, which results in increasingly positive CARs. Considering the divestment-period comprising day 100 before the announcement to 14 after in more detail now, CARs are predominantly negative from day 100 to day 40 before the announcement. From day 40 to day 1 after the announcement market expectations switch: Now the majority of CARs are positive (58 to 63 %). From day 1 to day 14 after the announcement this development consolidates: Now the majority of returns are negative (42% and 46 % positive CARs). Is this observation of univariate analysis significant statistically?

H3: Comparative CARs analysis for the pre-divestment phase and immediate divestment phase

H3 compares CARs in the pre-divestment period v [-720; -100] to CARs in the divestment phase [-100; +14] conducting a t-test for paired samples. Table 3 displays the period mean in %. That is the unstandardized CARs for the part periods which each comprise a

different number of days. These values are apt for a comparison with previous studies that usually refer to different period lengths. Further table below contains the standardized (daily) CARs, which are apt for a comparison among the part periods and accordingly for a test of H3.

The column "standardized daily mean (%)" displays that with the exception of d3 [-60;-41,] for each of the part periods d1 to d8, in the immediate divestment phase mean CARs are higher than for the pre-divestment phase [-702;-100]. However the differences between the pre-divestment means and the divestment means are significant at the 0.1 level for the core part-periods d5 and d6 only. While the pre-divestment mean CAR is - 0.007 %, the daily CAR in d 5 comprising days [-20; -1] is + 0.08 % and in d6 comprising days [-1; 1] the daily CAR is 0.331%. For the whole v-period [-720;-100] as compared to the whole d-period [-100; +14], the difference of the means is just not significant with a t-value of 0.190.

As to H3 which proposes that short term CARs in the divestment period exceed CARs in the two pre-divestment years significantly, these results imply: H3 is assumed for part period d5 and d6 but rejected for dtot. However by tendency the assumption underlying H3 is assumed: all divestment CARs are above the pre-divestment CARs. Usually investors have got positive expectations on the announcement of divestments and average returns change from negative to positive in the divestment phase.

It has been shown that from day 40 before the divestment an increasing upward movement of daily CARs is observable that culminates at a daily value of 0.33 % on the days -1 to +1 from the announcement. From day 1 to day 6 after the announcement daily CARs tumble to virtually zero (+ 0,002 % daily) and recover

to a daily value of + 0.04 from day seven to 14 after the announcement.

These results provide two new insights on the development of CARs in the environment of divestments:

The positive effect of divestments takes place shortly before their announcement. An inversion of the CAR trend starts from day 40 before the announcement and increases exponentially until the official announcement date.

As soon as the announcement is made public the positive short term CAR effect ceases. CARs go down to virtually zero and only recover about one week after the announcement.

These two novel observations are equally mirrored by the share of positive as compared to negative CARs as illustrated in figure above. Insider dealing and short term profit-taking are possible explanations: Potentially some important market participants are informed on rumors about the impending divestment deal before its official announcement. Hoping for technical stock price reactions at the announcement date they buy the divesting firms, which results in positive abnormal returns as compared to the pre-rumor period.

H4: Comparative CARs in the divestment and prolonged post-divestment-phase

Hypothesis 4 evaluates the impact of short term reactions after divestments on long-term effects assuming that long-term CAR values after divestments are significantly higher than short-term CAR values. This would mean that positive investors' expectancies are reconfirmed in the long run since divestments predominantly result in efficiency gains. For the total post-divestment period $ntot$ [+14;+720] the total CAR is 5.939 %. This

corresponds to a daily post-divestment CAR of 0.010 %. For the test of H4 the standardized daily CARs for the post-divestment period n are compared to the daily CARs for the divestment part periods $d1$ to $d8$. According to table 3, the daily CAR for the post-divestment period exceeds the divestment periods $d1$ and $d3$. For the remaining periods, $d2$, $d4$, $d5$, $d6$, $d7$ and $d8$ as well as the while divestment period $dtot$, the daily CARs are higher than for the long post-divestment period n . The results are significant for period $d5$ and $d6$ at the 0.1 %. That is in the close proximity of 20 days before to 1 day after the divestment announcement abnormal daily returns on average are above the post-divestment $ntot$ period comprising day 14 to day 720. This means that H4, assuming that long-term post-divestment returns are above the returns in the divestment phase, has to be straight denied. By tendency the contrary is the case: The major divestment-related returns are realized shortly before and at the announcement in the period $[-20; +1]$. Contentwise this implies that the excessive expectations investors develop in the phase, in which the divestments are a rumour, are not fulfilled later on. Though in the long run after the divestment CARs are more positive than before, the high excess returns realized in the rumour phase are speculative exaggerations. The following smoothed development line for the CARs of this sample brings the short- and long term perspective together:

Insert figure 3

Figure 3: Smoothed development of CARs in divestment period as compared to prolonged pre- and post - divestment period (own draft) While pre-divestment CARs are below 0, divestment rumors cause an inversion of this trend and a short term CAR peak between day- 20 and +1 from the announcement. Due to short-term profit taking the short term CARs after divestment go down to virtually zero but

recover in the first post-divestment year. The positive post divestment development ebbs off in the third year after the divestment. Although post-divestment exceed pre divestment CARs, the CAR peak in the immediate divestment phase strongly exaggerates the factual future development.

H5: Correlation of long and short term CARs after divestments

To what extent are investors' expectations fulfilled for the individual companies? Are companies for which high divestment CARs are observed in fact more successful in the long run than companies without significant CARs in the divestment period? Hypothesis 5 explores these questions, assuming that short-term CAR values after divestments are an indicator for long-term CAR values i.e. CARs in the d-period are positively correlated to CARs in the n-period. Considering the final column of table 6 first none of the post-divestment CARs (ntot and n1 to n7) is significantly correlated to the CARs in the divestment phase as a whole (CARdtot). From 72 correlations relevant to the test of H5, only five are significantly positive. Five correlations are significantly negative. This means that H5 has to be clearly rejected. CARs in the divestment phase as a whole are no reliable indicator for the long-term development of the stock. Frequently post-divestment CARs are inversely correlated to CARs in the divestment phase.

There are some further interesting insights however: The first concerns pre-divestment as compared to post-divestment CARs: Pre- divestment CARs (v) and CARs in period d1 - comprising the days -100 to -80 before the divestment are significantly negatively correlated to post-divestment CARs. Comparing the pre-divestment phase until day 80 before the announcement to the post-divestment

returns, it is obvious that divestment means a turn-around and CARs change from negative to positive usually. From an investors perspective the return development of a divesting firm in period d2 [-80;-61] before deal conclusion can be seen as a realistic indicator for post-divestment performance in the first two years after the deal.

Another relevant observation is that CARs in divestment phase 2 comprising day -80 to -61 before the divestment mirror CARs in the post-divestment phase most realistically. This concerns period n4 [+315;+414] and the total post-divestment period [+14;+720] in particular. The correlations between dtot as well as d2 and n4 are significantly positive at the 99% level. Reconsidering the results of paper 1 of this study series, n4 and ntot are particularly successful as compared to the pre-divestment phase. Correlations of d2 [-80; - 61] and n7 [+615;+714] are significantly negative. This is another indicator for the observation made in paper 1 that positive divestment effects ebb in the third year after deal conclusion.

H6: Case study analysis of outliers

H6 assumes that outliers in divestment processes displaying significantly lower returns in the post-divestment phase than in the pre-divestment phase and significantly lower CARs in the post-divestment phase than in the pre divestment phase are characterized by exceptional external developments or management mistakes that cause divestment failure. Relevant companies first are identified in a simple t-test. For a t-test at the 95 % level 8 companies would have to be tested, increasing the test level to 99%, 6 corporations, and for a t-test at the 99.9 % level 5 firms remain relevant. These most significant 5 outliers are chosen for the case-study. These are

Telstra (divestment 13.8.2007),
 China Telecom (divestment
 4.6.2008),
 Portugal Telecom (divestment
 2.9.2009),
 France Telecom/Orange
 (divestment 28.2.2011),
 Telecom New Zealand (divestment
 14.4.2011).

For these extremely negatively performing outliers now firm data bases and news available on the web are searched for corporate information concerning the considered divestment period.

DISCUSSION

Bringing the insights of the empirical analysis together, the initially posed research questions on sustainable market value creation by strategic divestments now can be answered: First, it was asked, how models, established for short term divestment research, can be adapted for the analysis of long-term divestment value creation. This study has developed a statistical method of analysis for long-term cumulated average abnormal returns, by modifying the CAR-approach proven for short-term analysis. The conventional CAR model as applied by Brauer & Schimmer (2010) Brauer & Wiersema (2012) and Bartsch (2009) for instance, is apt for the (very) short run only since it operates on the assumption of constant beta-factors. In fact, the risk exposure of stocks as compared to the diversified market portfolio changes over time, which means that this assumption is not correct for the long run. For this reason all but one (Lambertides, 2009, 656) available previous studies use the CAR-model for an observation period of no more than 10 days after the event.

Here a novel method of CAR calculation has been developed that operates based on gliding alpha and beta

factors. A lag l of 200 trading days is chosen for which the capital market line is calculated in advance of each observation day. This strategy makes the CAR model applicable to arbitrarily long observation time spans. This study tests the approach for an event window of 720 days before to 720 days after a divestment event, omitting 100 days before and 14 days after the event, to exempt the influence of short term market reactions. The observation range after the event is subdivided into tranches of 100 days each.

Applying this methodology the study provides novel objective insights on the sustainable market value creation after divestments and answers research question 2, whether divestments result in positive abnormal returns in the long run: Previous long run studies usually applied management surveys (Kahlert, 2008; Schiereck & Stienemann, 2004, Anslinger et al., 2003) or accounting figures (Hanson & Song, 2003, Cristo & Falk, 2006, Chen and Guo, 2005). Neither method represents the perspective of a prospective investor asking for the market value after divestments. Further, management surveys are biased by the perspective of the participating managers concerning the performance assessment after the divestment. Accounting based studies suffer from the information bias inherent in any firm balance and do not include market expectations. Both types of analysis cannot analyse detailed time frames after the event.

This evaluation has closed these research gaps: Applying the modified CAR approach post-divestment returns have been analysed for seven consecutive 100-intervals and the whole 700-day period after the event and have been compared to the 700-day period before the event. Briefly, the test of hypothesis 1 has shown:

For each part period the share of over- and under performers after divestments as compared to the expected fair return is around 50% (compare figure 4). Over-performers though show significantly higher absolute returns than under-performers.

Comparing post-divestment CARs to pre-divestment CARs, considering the whole post-divestment period, divesting firms perform significantly better than before.

Sustainable positive market value needs time to develop: While in the first 200 days after the divestment – exempting technical course reactions in the first fortnight after the deal – post-divestment.

CARs are negative by tendency, they are significantly positive from day 315 to 414 (part period N3). The average positive effect disappears in period N7.

The economic theories of the market based and resource-based view reviewed suggest that efficiency gains after divestments need some time to develop and markets need time to react to changes.

The evaluation of H2 answers research question 3, concerning the dependence of post-divestment returns on the timing of the divestment deal. While Brauer & Schimmer (2010) and Brauer & Wiersema (2012) have found cycles for the short run no previous study has analysed the long run so far:

Post-divestment returns do not significantly depend on the year of deal conclusion.

The quarter of deal conclusion has a significant impact on post-divestment returns: Deals concluded in quarter 4 perform

significantly better than deals concluded in quarter 1 to 3 in the period N4 (315 to 414 day after contract conclusion) and in the post-divestment period as a whole.

Pre-crisis divestments do not significantly differ from post-crisis deals concerning post-divestment returns. Pre-crisis deals though performed significantly better in the pre-divestment period than post crisis deals, which suggests that between 2005 and 2007 equally well performing firms found divestments attractive, while after the crisis, capital shortage and the need for consolidation were major reasons for strategic divestments.

To some extent, long-term as well as short-term market value development after divestments depends on the timing of the sales act. The broad span of performance results though suggests that firm-specific factors have an important impact on the sustainability of value creation.

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Figure - 1
Tripartite time frame of analysis

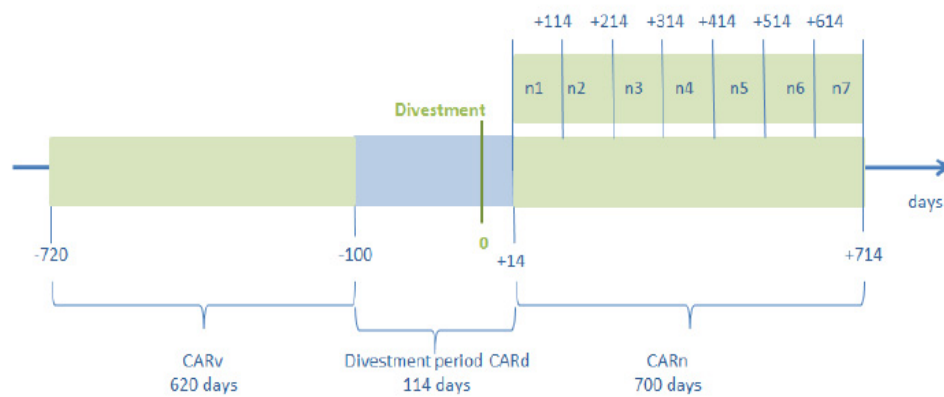


Figure- 2
Subdivision of immediate divestment period

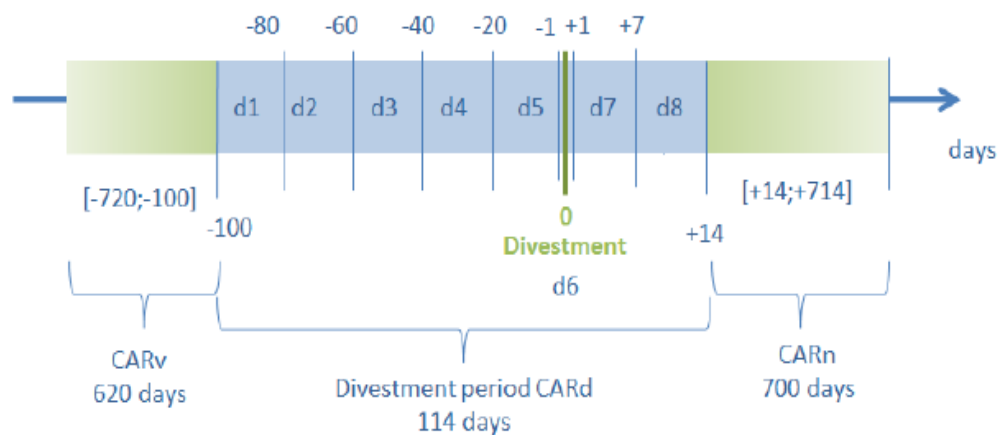
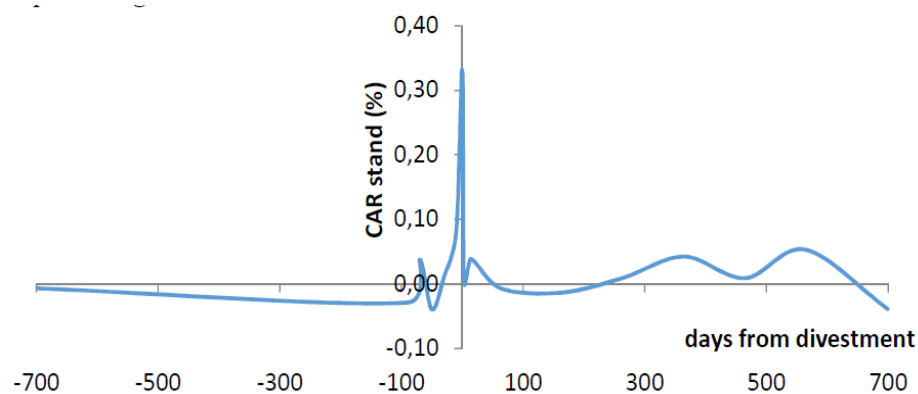


Figure - 3
Smoothed development of CARs in divestment period as compared to prolonged pre- and post - divestment period (own draft)



An Analysis of Customer Satisfaction and usage Patterns of Mobile Telecommunication Networks in Nigeria

Omojola Abiola Abiodun
Universiti Tun Abdul Razak,
Malaysia

M.S.B. Siddiq
Universiti Tun Abdul Razak,
Malaysia

Abstract

The government monopoly in telecommunication industry in Nigeria has changed during the recent years into a more competitive market with competitors offering more services and products. This study is focused on customer satisfaction and the usage patterns of the mobile telecommunication networks in Nigeria. The results obtained from this research indicated that the most used mobile telecommunication network in Nigeria was MTN, followed by Airtel and GloMobile. Majority of the mobile phone users had used it between 4-8 years, while they were commonly used as personal line, and the mode of payment were mostly prepaid. Radio/TV and word of mouth communications were preferred sources of getting information on mobile telecommunication products and services. Most unpleasant experiences encountered were resolved within a week. The study indicated that majority of the respondents were satisfied with mobile telecommunication networks in Nigeria. The goal is to create awareness of the usage patterns and the factors which precede customer satisfaction of the service, and ultimately for each network management to be able to judge its position in the competitive market scenario.

Keywords: usage pattern, customer satisfaction, measurement, telecommunication.

INTRODUCTION

Mobile Telecommunication refers to the exchange of information through a mobile phone or wireless network. Communication through mobile telecommunication is a key element to growth and development in any developing country like Nigeria. In the midst of customers increasingly demanding higher quality service, superior customer care/service, and more value for their money in addition to a growing competition among the companies in the industry, the basic objective would be to provide an unadulterated but good products and services, and adoption of more customer focused ideas that seek to understand and build long term relationship with the profitable customers to retain them. Kotler et al., (2006) stated in their studies that there are more competitions today as

companies are moving from the idea of product and sales to marketing. This philosophy has led to the growing interest in customer relationship management initiatives that aim at ensuring customer identification and interactions, and personalization (Thomson, 2004). In today business, customer satisfaction is all about competing for customer through fulfilling their needs and wants. Managing customer relationship as investments will help firms to focus resources in areas where they will deliver maximum values, because there are so many companies available for the single customer and each company is trying to provide superior quality product or service to the customer at reasonable price. Due to the advancement of technology, so many changes are taking place in the modern market every second. Therefore companies must be well aware of both the external and internal factors of

their organization. Internal factors which effect the organization are under the control of the organization. In this regard, measuring customer satisfaction which has always been a fundamental marketing construct that provides the feedback of how successful an organization is at providing products or services to the satisfaction of the customers. Customer satisfaction has the potential of increasing the company reputation and image, which can be achieved through customer service during or before purchase and after, making it imperative for companies to take reliable efforts towards improving the quality of service delivery and managing customer satisfaction and value more effectively. The development in the global world of business has compelled companies to formulate strategies that go beyond the usual market challenges by making sure customer satisfaction of their product or services is of high priority for their existing customers. To accomplish this, telecommunication network providers will need to employ cost effective marketing management techniques, because the industry encompasses many technology related business sectors. The telecommunication industry in Nigeria has witnessed some significant development because the usual government monopoly of the industry has change as a result of deregulation policy, leading to private participation, more competition, larger coverage and better services among players.

The increasing global economy has also changed mode of doing business due to increased competition and crowded markets with little product differentiation, it takes companies a lot of effort to maintain high customer satisfaction levels or to boost customer satisfaction, it takes effort and also costs more to get new customers than to keep the existing ones, it is therefore wise for companies to keep their

existing customers rather than spend additional resources to gain new customers for the company. Customer satisfaction is a significant strategy that can lead to financial and non financial performance of which competitors must recognized, holding on to the customers they have and understand how to attract new ones. Measuring customer satisfaction effectively is the major problem most companies are facing today, understanding how to measure and track customer satisfaction require an accurate sense of what needs to be measured, data collection technique, method of data analysis, interpretation and application of the data as a business strategy to drive the company. The exchange of information through a mobile phone or wireless network through the global system for mobile communications was first made under a democratic government in August 2001. Ajala (2005) stated that this event heralded the dawn of a new era which has completely changed the face of doing business in Nigeria. Since the first GSM call was made, the industry in Nigeria has changed, competition for subscribers in which operators have resorted to price war, and high-value services. The world is fast becoming a global village and a necessary tool for this process is telecommunication. There are rapid developments in the telecommunications industry all over the world as one innovation keep replacing another, and Nigeria is part of this race for rapid developments. In January 2001, the regulatory body Nigerian Communication Commission, modernized and expanded the mobile telecommunications network and services by granting GSM license to three service providers to commence operation. The Nigerian telecommunications sector was grossly underdeveloped before the sector was deregulated under the military regime in 1992 and placed under the jurisdiction of the Nigerian Communication Commission.

The journey to success in Nigeria telecommunication environment has been long and complicated.

Mobile communication network providers in delivering services to customers, operate in an environment that involves purposeful relationships and interactions between several actors in many activities and with different resources. Current study of the trends in world telecommunication reveals that there is an increasing growth rate for global mobile network usage for the last decade, likewise in Nigeria, the mobile communication industry is one of the most profitable industries delivering services to customers throughout the country. The industry has five companies with each operating its own mobile telecommunication network and brand name. The market is divided into urban and semi-urban, and rural market. Segmentation is Global System for Mobile Communication (GSM) and Code Division Multiple Access (CDMA). At the moment there are five mobile telecommunication key players in Nigeria: Etisalat, MTN, Airtel, GloMobile and MTEL. Though competition has been keen in the industry, each of the six mobile networks has been growing in customer acquisition since Nigeria deregulated its telecommunication sector in 2001. Eight years after the start of the GSM era, the focus in the industry is gradually shifting from providing coverage to providing quality telecommunication service to Nigerians. The paper presents a summary of the developments in the Nigerian telecommunication sector and the implications of its management practices in terms of services and operations. At the moment there are five mobile telecommunication key players in Nigeria: Etisalat, MTN, Airtel, Glomobile and MTEL. Mobile Telephone Network (MTN) Nigeria is part of the MTN Group which is Africa's leading cellular telecommunications

company. The group operates global system for mobile communication networks in six countries including Nigeria. MTN Nigeria commenced operations in 2001 after the deregulation. MTN success in Africa isn't just about providing telecommunications networks but to facilitate change that will have long term benefits domestically. Etisalat is incorporated in partnership with Mubadala Development Company and Etisalat of the UAE. Etisalat has been the telecommunications service provider in the Middle East; it has footprints in several countries across the world. Etisalat begins operations in Nigeria with considerable experience; they made the first official call on its network on the 13th of March 2008. Airtel formerly known at various times as Econet, VMobile, Celtel, Zain, and now Airtel, the company was established in 2000 by a group of investors and some state governments. Airtel made history in 2001 as the first telecoms company to start commercial calling services, the first to launch service across the six geopolitical areas, the first to introduce high denomination recharge card, also the first to commence emergency service, free text messages and monthly airtime bonus. Glomobile was launched in 2003 offering both prepaid and postpaid packages along with a range of other service. The company became the fastest growing network by achieving a record one million customers in a short period of its operation. Notable among their innovations is the introduction of per second billing platform at launch which caused a stir in the industry and is regarded as the most innovative landmark in the industry since the introduction. MTEL used to be a government own company, presently their activities and operations are under suspension due to fraud, mismanagement and non performance. Eight years after the start of the GSM era in Nigeria, the focus in the industry is gradually shifting from providing coverage

to providing quality telecommunication service.

There are but few studies conducted on the impact and development of mobile telecommunication in Nigeria. Therefore, there is need to create more awareness of the importance of customers to the development of the industry. The study will address a variety of research questions which include, what mobile network is most used in Nigeria? What are the usage patterns across demographics characteristics? What are the customers' unpleasant experiences and how were they resolved? To answer these questions, this exploratory study will aim at investigating the usage pattern and customer satisfaction of the mobile telecommunication services in Nigeria, the factors that influence it and the relationship between demographic variables and satisfaction from the customer's perception. Other objectives of this research are to analyze the usage patterns, determine common source of information on mobile telecommunication products and services, identify unpleasant experiences encounter, examine the important criteria influencing customer satisfaction, assess level of satisfaction of the services, analyze the relationship between customer satisfactions and some demographic variables and suggest strategies for service improvement from the results of the study. The study would contribute to the literature on customer satisfaction in the telecommunication industry in Nigeria, and also give market researcher understand and further knowledge of the segment.

LITERATURE BACKGROUND

The business expression customer satisfaction is an accumulated experience of customer's purchase and consumption, or a measure of performance of how products and services supplied by a company meet customer expectation. In a competitive market where businesses

compete for customers, customer satisfaction is seen as a key differentiating factor and increasingly has become a key element of business strategy. The concept of customer satisfaction has been fundamental to marketing for many years, depending on the situation, it is the state of mind that customers have when their expectations have been met or exceeded of the product or service, achieving this may lead to loyalty and product or service repurchase. Parker and Mathew (2001) in their study approached the concept of customer satisfaction with two different definitions. These are satisfaction as a process and satisfaction as an outcome of a consumption experience. Oliver (1981) expressed customer satisfaction as a process as an evaluation between what was received and what was anticipated. On the other hand Parker and Mathews (2001) noted that customer satisfaction as a process concentrates on the antecedents to satisfaction rather than satisfaction itself. The definition of customer satisfaction as an outcome expressed the end-state satisfaction resulting from the experience of consumption; this can be an outcome that occurs without comparing expectations. The early concepts and researches of customer satisfaction have typically defined and expressed customer satisfaction of a specific purchase decision as a post choice evaluative judgment (Oliver, 1980; Oliver and Desarbo, 1988; Churchill and Suprenant, 1992). Purchase decision is usually influenced by some characteristics of the buyer which may be psychological, social-cultural or personal. According to Chaston (2001) purchase decision is also influence by the decision process of the buyer which include recognition, information search and evaluation, purchase and post purchase evaluation. Customer satisfaction is a function of disconfirmation which in turn is a function of expectation and perceived performance; however when performance falls below

expectation (Oliver, 1977) dissatisfaction occurs. Expectation is determined by the total customer cost, value and needs. Customer satisfaction is also viewed as the discrepancy between the observed and the desired (Poisz and Vongrumbkow, 1988), which is consistent with value percept which views satisfaction as an emotional response resulting from cognitive evaluation (Parker and Mathew, 2001; Westbrook and Reilly, 1983). A review of literature and views of customer satisfaction revealed some significant differences in the definition, but the definitions share some identifiable elements in common, it is an emotional or cognitive response, which pertains to a particular focus from expectation and consumption experience, which occurs at a particular time after consumption.

Models of Customer Satisfaction

Various disciplines attempt consumer research from different viewpoint; however they are all interested in identifying how an improvement in a product or service is accepted by the consumers. Some disciplines use techniques for evaluating market response, others measure social influences on creating market acceptance, while yet others study personal characteristics of consumers and how these affect purchasing decision of each individual consumer. However, there are also general tools that are employed in many disciplines. Customer satisfaction is an abstract concept and the actual manifestation of the state of satisfaction will vary from person to person and product to product or service to service. A review of some of the customer satisfaction models include ACSI, Kano model, and service quality models. Kano model offers some insight into the product attributes which are perceived to be important to customers. He also produced a methodology for mapping consumer responses to questionnaires.

Kano et al. (1996) classifies product attributes based on how they are perceived by customers and their effect on customer satisfaction. The model described three types of product attributes that fulfil customer satisfaction to a different degree, these are: basic or expected attributes, performance or spoken attributes, and surprise and delight attributes. Companies can correctly identify the requirements and attributes and use them to document data. Service quality model developed by Gronroos, (1982) posit that the quality of a service perceived by customers will differ depending on what strategy the company chooses to deliver the service. He expressed further that a high perceived quality is obtained when the experienced quality meets customer expectations. The total perceived quality will be low if the expectations are unrealistic, even if high quality was experienced. The expected quality is heavily influenced by customer need, market communication, the image of the company, and word of mouth. While a company directly controls market communication, the image of the company and word of mouth are outside its immediate reach. Other service quality model such as Service quality (GAP) model is a service quality framework that has been incorporated into customer-satisfaction surveys to indicate the gap between customer expectations and experience (Parasuraman et al., 1994). The model expressed perceived service quality as the gap between expected service and perception of service actually received. It uses a set of service quality determinants measured by a 22- item scale. American Customer Satisfaction Index is developed at the University of Michigan's Ross School of Business. ACSI model uses customer interviews as input; it is a cause and effect model. With perceived quality, expectation and perceived value as the determinants of

customer satisfaction and customer complaints and customer loyalty as the outcomes, of which customer retention and price tolerance were also included. ACSI questions assess customer through evaluations of the determinants which are reported on a scale of 0 to 100. This model is adopted in this research.

Determinants and Outcomes of Customer Satisfaction

Rust and Oliver (1994) identified several factors that precede customer satisfaction and suggested that these factors strongly influence the extent of customer satisfaction. Some of these determinants include: customer expectation, perceive value, perceive image and perceive quality. Customer satisfaction is the outcome resulting from having consumed a product or service. Customer need and expectation is an assessment of the customer's hope of the quality of the products or services of a firm. Customer expectations represent both prior consumption experience which includes some non experiential information like advertisement and a forecast of the ability of the company to deliver quality in the future (ACSI, 2010). According to the Kano (2001) customer needs can be divided into basic, expected and excitement needs. Researchers have found out that expectation plays a major role in determining satisfaction, as also proclaimed by the proponents of popular expectancy disconfirmation theory (Parasuraman, et al., 1988,). Perceived value has been recognized in the past decade as one of the most salient determinants of purchase intention and customer retention (Jayanti et al., 1996). Perceived value may conceptually refer to the overall price divided by quality or the overall quality divided by price, it is the results or benefits customers receive in relation to total costs or the consumers' overall assessment of what is received

relative to what is given (Zeithaml, 1988), customers who perceive that they receive value for money are more satisfied than customers who do not perceive they receive value for money. Gerpolt et al., (2001) expressed that customer care, personal benefit, price and network quality are key drivers of the customers' value in the telecommunication services. Perceived image is a perception of a product or service of an organization held in consumer memory (Gronroos, 1988) and works as a filter which influences the perception of the product/service or their operation. Good and positive image makes a consumption experience more gratifying, thus making customers experience pleasurable social and emotional benefits. The important aspect of image has received increasing attention since it affects the individual's subjective perception and consequent behavior. The perceived quality is often measured through overall quality and the extent to which a product or service meets the customer's needs in terms of reliability. Perceived quality is an important predictor of customer satisfaction of any product or service. Perceived quality cannot necessarily be objectively determined in part because it is a perception and also because judgments about what is important to customers are involved. Past studies on mobile telecommunication services measured services quality by the quality of the call, call price and value-added (Kim, 2000; Gerpott et al., 2001). Customers determine satisfaction level of any purchased service or product by the perceptions of quality received.

Customer can experience satisfaction with telecommunication network quality, accurate billing; organizations conduct of transaction as in network availability and connectivity; organization representative; pre purchase relationship, and post purchase relationship through friendly customer care/service. Some outcomes related to customer

satisfaction are customer loyalty and customer retention. Customer loyalty reflects the likelihood of repurchasing products or services (ACSI, 2010). Customer loyalty is a major predictor of repurchase which is strongly influenced by evaluations of product quality and value. Coyne (1989) expressed that customer satisfaction has measurable impact on customer loyalty, as satisfaction leads to loyalty. Customer retention provides an indication of how successful the organization is at providing products and/or services to the marketplace. Companies should be more interested in retaining their existing customers while targeting prospective ones. Studies have shown that there is a positive relationship between customer satisfaction and customer retention (Anderson and Sullivan, 1993). A customer who is satisfied with a company product or service is more likely to return and stay with a company than a customer that is not satisfied (Ovenden, 1995). According to Eriksson and Vaghult, (2000) customer satisfaction leads to retention and customer retention is central to the development of business relationships.

The reasons for measuring customer satisfaction may vary among companies (Naumann, 1995), according to him the process helps in providing enabling environment to get close to the customer so as to understand their needs. Data collected from customers can be developed into sources of innovations and this can help to achieve customer driven improvement. It also helps organizations to measure their competitive strengths and weaknesses through customer perceptions. Fornell (1992) expressed that a highly satisfied customers tend to stay longer to purchase more as the company introduces new products and services, and that they talk favorably about the company and its products or services (Kan 1995), thereby paying less attention to competing products or services. They are less sensitive to price

changes and variations, and sometimes offer product or service ideas to the company based on experience. Studies have also shown that it costs about five times to gain a new customer as it does to keep an existing customer (Naumann, 1995). Companies are adopting customer satisfaction as their operational goal with a carefully designed framework. Customer satisfaction measurement is not an end in self; it is a useful means to achieving several objectives of business organizations (Kotler & Keller 2006). Customer satisfaction and its measurement are significant because it enables organizations to effectively evaluate their abilities and capabilities to meet customers' expectation, desires and needs. The measurement process is one of the projective ways of getting into the minds of customers to obtain valuable and continuous feedback to identify areas of improvements.

Usage Pattern

The mobile telecommunication is one of the information platforms with large global access, and the usage is one of the recent developments that have changed the mode of communication. The usage pattern is the usage habits of the customer at a specific time. There are very few studies on the usage patterns of mobile telecommunication; however, most of the available studies focused on populations within a homogeneous society. Aoki and Downes (2004) observed that it has been a less studied area when compared to the research on the other aspect of mobile telecommunication. In Sweden, Weilenmann and Larsson (2001) conducted a research on the public use of mobile telecommunication among teenagers, they pointed out that the mobile telecommunication has come to be used as a tool for local social interaction. Taylor and Harper (2001) in their study examined the usage pattern of the young people on text

messaging. The usage pattern of mobile telecommunication has also been studied by other scholars (Cooper 2002; Palen, Salzman and Youngs 2000; Aoki and Downes 2004; Venkatesh 1995; Issac, Nickerson, and Tarasewich 2004; Carlson, Kahn, and Rowe 1999). Literature on mobile telecommunication usage shows that it has a significant common impact. This paper will also examine the usage pattern of mobile telecommunication in Nigeria.

RESEARCH METHODOLOGY

The research design utilized for this study was motivated because customer satisfaction surveys are questionnaire based information collection tool to determine the level of satisfaction with various product or service features. Survey techniques and questionnaire designs are well known to research community and multiple guidance from different disciplines exist (Hayes, 1998; Kessler, 1996; Chakrapani, 1998; Brierley et al., 1999). As a result of the development in consumer research, measurement scales used in customer satisfaction surveys is growing (Dong et al. 1993). The questionnaire for this exploratory study contains questions on mobile telecommunication network, usage pattern, customer complaints, rating of advertisement, products, network, billing and validity period for prepaid line and demographics. The questionnaires employed the seven point Likert scale. This is a widely used rating scale which requires the respondents to indicate a degree of satisfaction or dissatisfaction; and the degree of agreement or disagreement with each of a series of statements or questions (Albaum, 1997). This rating scale is easy to construct and administer and respondents readily understand how to use the scale (Malhotra and Birks, 2003). The questionnaire was set in English, since this is the official language and the primary business communication language in

Nigeria. Questionnaires were distributed to mobile phone users on the streets, in the offices, in private homes and public areas of Abuja, Lagos, and Port Harcourt. The choice of this method of data collection was of high priority so as to have high representation of the sampling population. A total of 300 survey questionnaires were distributed and collected, hundred respondents were administered the questionnaires in each location. Researches have shown that there are relationships between demographic variables (age, sex, location, income) and satisfaction (Bryant et al., 1996; Oyewole, 2001; Venn and Fone, 2005). Therefore consumers differ in behaviors and attitudes toward any product or service and one of the factors responsible for this difference is demographics characteristics. Some of the variables of consideration are: product/service variables, sales and promotion variables and after sales variables.

RESULTS AND DATA ANALYSIS

Data presentation covers the descriptive statistics and analysis of the characteristics of the respondents, customer satisfaction measurement and usage pattern derived from the survey data.

Insert Table 1

Table 1 shows the demographic details of the respondent. In this survey, as shown in the table above, the males (56.3%) were more than the females (43.7%); this shows that there was a good representation of both genders in the sample. A high proportion of the respondents (80.3%) were the economically active young adults, who are between 20 and 39 years old. More than half (52%) are in private employment, while 18.0% are in public employment or civil service, equally distributed (33.3%) in each location.

Insert Table 2

Table 2 shows the usage patterns of the most used or only line of the respondents. A relatively large percentage of the respondents selected MTN (48.7%) as their most used or only line, followed by Airtel with 27%. This could be as a result of economies of scale, more access to distribution channels, and first mover's advantage; MTN and Airtel were the first two players in the industry granted license in 2001, Airtel's low percentage could be as a result of management problems over the years. The company started as Econet, later changed their name at various times to VMobile, Celtel, Zain and presently Airtel. The third is GloMobile 23.3%. More than half are longtime users, 56.3% of the respondents have been using their most used or only line between 4-8 years. The statistic indicates that more of the most used or only line are subscribed personally, personal line 75.7%, while less are subscribed by the company as business or official line 24.3%. It is obvious that prepaid (87.0%) best described how the mobile telecommunication services were paid for, while (13.0%) were post-paid.

Insert Table 3

There is a fair demographics representation in the most used/only mobile line as shown in Table 3; the highest for male is MTN 27.3%, followed by GloMobile (15.7%) and the highest for female is also MTN 21.3%, followed by Airtel (14.7%), and used more by respondents in private employment (24.7%) between 20-29 years old (19.7%) living in Lagos (18.3%). From the Chi square results, there are significant relationships ($p=0.025$) between gender and the most used/only line, and location and most used/only line ($p=0.006$), age and employment have no significant relationship.

Insert Table 4

Table 4 shows the summary of usage patterns for the additional mobile lines, the table indicates that about two third of the total respondents (69%) selected having additional line. A larger percentage of these respondents selected GloMobile 38.2% as their additional line, followed by MTN 29.5%. About 62.8% have been using their additional line between 4-8 years, subscribed as personal line (57.5%) as prepaid (77.8%). Table 5 shows the analysis of the additional line by the demographic variables. The gender representation of additional mobile line users indicates that male 52.0% (representing about 64% of total male respondents) and female 48.0% (representing about 76% of total female respondents). Female respondents are more additional line users, and most of them (23.0%) also selected GloMobile, while the highest for male is MTN (18.0%). From the Chi square results, there are significant relationships ($p=0.016$) between gender and the most used/only line, and location and most used/only line ($p=0.009$), age and employment have no significant relationship.

Insert Table 5

Table 6 shows summary of expenses and source of information, majority of the respondents 49.3% spent between ₦2001- ₦5000 monthly on mobile phone usage, while 19.7% spent between ₦5001- ₦10000.

These figures are relatively high considering the present financial and economic standard and situation in Nigeria. On source of information, Radio/TV recorded the highest (86.7%); this may be due to the several numbers of radios and TV transmitting stations all across the cities. Table 7 shows the details assessment and analysis of the respondent's last unpleasant experiences, 36% of the respondents have had unpleasant experiences, of which poor line/network quality accounted for 50.9%,

the actions taken include complaint to customer service and told other by word of mouth. All the unpleasant experiences were resolved.

Insert Table 7

Table 8 presents the assessment of respondents' level of satisfaction of the mobile telecommunication service. The means scores were all above the midpoint, the higher the mean score the greater is the level of customer satisfaction of service.

Insert Table 8

Table 9 shows the analysis of satisfaction of overall service when the initial demographic groups are reclassified into two groups each. This is important for strategy development and market segmentation.

Insert Table 9

The results show a high level of customer satisfaction across the demographics variables, an indication that mobile telecommunication networks in the growing economy of Nigeria are highly functional.

CONCLUSION

This research attempts to study the usage pattern and customer satisfaction of mobile telecommunication networks in Nigeria. Specifically, this research seeks to identify the mobile telecommunication services, important criteria for usage, the level of satisfaction, and customer unpleasant experiences. The results show that the most used mobile telecommunication network in Nigeria was MTN, followed by Airtel and GloMobile. In terms of usage period, it was found that majority of the mobile phone users had used it between 4-8 years, an indication of customer loyalty and retention. Most were used as personal line while few were used as business or official line. On choice of additional line, GloMobile were used more as additional lines, followed by MTN and

Airtel. The gender representation indicated that there were more female additional line users than male, marketers interested in mobile telecommunication products and services could channel their sales to this target groups. The result of this study only reflects on the responses from limited mobile telecommunication users in the urban areas of Abuja, Lagos and Port Harcourt. Further measures for this study to be conducted on national basis would be beneficial, in addition to analysis of specific services across mobile telecommunication networks such as SMS, MMS, internet, and customer satisfaction with fixed line/CDMA segment.

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Table - 1**Demographic details of the respondents**

No	Profile	N	(%)
1	Age		
	19 or less	12	(4.0)
	20 - 29	145	(48.3)
	30 - 39	96	(32.0)
	40 - 49	36	(12.0)
	50 - 59	5	(1.7)
	60 - 69	3	(1.0)
	70 or above	3	(1.0)
	Total	300	(100.0)
2	Gender		
	Male	169	(56.3)
	Female	131	(43.7)
	Total	300	(100.0)
3	Employment		
	Public employment	54	(18.0)
	Private employment	156	(52.0)
	Self employed	42	(14.0)
	Student	32	(10.7)
	Unemployed	11	(3.7)
	Housewife	5	(1.7)
	Total	300	(100.0)
4	Location		
	Abuja	100	(33.3)
	Lagos	100	(33.3)
	Port Harcourt	100	(33.3)
	Total	300	(100.0)

Table - 2
Summary of Usage Pattern of the Most used/Only Line

No	Pattern	N	(%)
1	Most used/Only line		
	MTN	146	(48.7)
	Airtel	81	(27.0)
	GloMobile	70	(23.3)
	Etisalat	3	(1.0)
	MTEL	0	(0.0)
	Total	300	(100.0)
2	Usage Period		
	4 - 8years	169	(56.3)
	1 - 4years	92	(30.7)
	More than 8years	29	(9.7)
	Less than 1year	10	(3.3)
	Total	300	(100.0)
3	Usage Mode		
	Personal line	227	(75.7)
	Business/Official	73	(24.3)
	Total	300	(100.0)
4	Payment Mode		
	Pre-paid	261	(87.0)
	Post-paid	39	(13.0)
	Total	300	(100.0)

Table - 3
Most used/Only line by Demographic Variables

Age								
Line	19 or less	20-29	30-39	40-49	50-59	60-69	70 or above	Total
MTN	6(2.0)	59(19.7)	56(18.7)	18(6.0)	3(1.0)	2(0.7)	2(0.7)	146(48.7)
Airtel	3(1.0)	51(17.0)	17(5.7)	8(2.7)	1(0.3)	1(0.3)	0(0.0)	81(27.0)
GloMobile	3(1.0)	33(11.0)	23(7.7)	9(3.0)	1(0.3)	0(0.0)	1(0.3)	70(23.3)
Etisalat	0(0.0)	2(0.7)	0(0.0)	1(0.3)	0(0.0)	0(0.0)	0(0.0)	3(1.0)
Total	12(4.0)	145(48.3)	96(32.0)	36(12.0)	5(1.7)	3(1.0)	3(1.0)	300(100.0)

$$X^2(18) = 15.695, P = 0.614$$

Gender			
Line	Male	Female	Total
MTN	82(27.3)	64(21.3)	146(48.7)
Airtel	37(12.3)	44(14.7)	81(27.0)
GloMobile	47(15.7)	23(7.7)	70(23.3)
Etisalat	3(1.0)	0(0.0)	3(1.0)
Total	169(56.3)	131(43.7)	300(100.0)

$X^2(3) = 9.390$, $P = 0.025$

Employment							
Line	Public Employ.	Private Employ.	Self Employ.	Student	Unemployed	House Wife	Total
MTN	26(8.7)	74(24.7)	20(6.7)	17(5.7)	6(2.0)	3(1.0)	146(48.7)
Airtel	19(6.3)	40(13.3)	11(3.7)	8(2.7)	2(0.7)	1(0.3)	81(27.0)
GloMobile	9(3.0)	40(13.3)	10(3.3)	7(2.3)	3(1.0)	1(0.3)	70(23.3)
Etisalat	0(0.0)	2(0.7)	1(0.3)	0(0.0)	0(0.0)	0(0.0)	3(1.0)
Total	54(18.0)	156(52.0)	42(14.0)	32(10.7)	11(3.7)	5(1.7)	300(100.0)

$X^2(15) = 5.773$, $P = 0.983$

Location				
Line	Abuja	Lagos	Port Harcourt	Total
MTN	45(15.0)	55(18.3)	46(15.3)	146(48.7)
Airtel	33(11.0)	14(4.7)	34(11.3)	81(27.0)
GloMobile	22(7.3)	28(9.3)	20(6.7)	70(23.3)
Etisalat	0(0.0)	3(1.0)	0(0.0)	3(1.0)
Total	100(33.3)	100(33.3)	100(33.3)	300(100.0)

$X^2(6) = 18.140$, $P = 0.006$

Table - 4

Summary of the Usage Pattern of Additional Lines

No	Usage Pattern	N	(%)
1	Additional line		
	GloMobile	79	(38.2)
	MTN	61	(29.5)
	Airtel	59	(28.5)
	Etisalat	5	(2.4)
	MTEL	3	(1.4)
	Total	207	(100.0)
2	Usage Period		
	4 - 8years	130	(62.8)
	1 - 4years	69	(33.3)
	Less than 1year	8	(3.9)
	More than 8years	0	(0.0)
	Total	207	(100.0)
3	Usage Mode		
	Personal line	119	(57.5)
	Business/Official	88	(42.5)
	Total	207	(100.0)
4	Payment Mode		
	Pre-paid	161	(77.8)
	Post-paid	46	(22.2)
	Total	207	(100.0)

Table - 5

Additional line by Demographic Variables

Age								
Line	19 or less	20-29	30-39	40-49	50-59	60-69	70 or above	Total
Glomobile	1(0.5)	42(20.3)	20(9.7)	13(6.3)	3(1.4)	0(0.0)	0(0.0)	79(38.2)
MTN	3(1.4)	26(12.6)	22(10.6)	7(3.4)	1(0.5)	1(0.5)	1(0.5)	61(29.5)
Airtel	0(0.0)	24(11.6)	25(12.1)	9(4.3)	0(0.0)	0(0.0)	1(0.5)	59(28.5)
Etisalat	1(0.5)	2(1.0)	1(0.5)	1(0.5)	0(0.0)	0(0.0)	0(0.0)	5(2.4)
Mtel	0(0.0)	2(1.0)	0(0.0)	1(0.5)	0(0.0)	0(0.0)	0(0.0)	3(1.4)
Total	5(2.4)	96(46.4)	68(32.9)	31(15.0)	4(1.9)	1(0.5)	2(1.0)	207(100.0)

$$X^2(24) = 23.994, P = 0.462$$

Gender			
Line	Male	Female	Total
GloMobile	31(15.0)	48(23.0)	79(38.0)
MTN	38(18.0)	23(11.0)	61(29.0)
Airtel	32(15.0)	27(13.0)	59(29.0)
Etisalat	4(1.9)	1(0.5)	5(2.4)
Mtel	3(1.4)	0(0.0)	3(1.4)
Total	108(52.0)	99(48.0)	207(100.0)

$$X^2(4) = 12.202, P = 0.016$$

Employment							
Line	Public Employ.	Private Employ.	Self Employ.	Student	Unemployed	House Wife	Total
GloMobile	20(9.7)	45(21.7)	11(5.3)	2(1.0)	1(0.5)	0(0.0)	79(38.2)
MTN	11(5.3)	37(17.9)	8(3.9)	5(2.4)	0(0.0)	0(0.0)	61(29.5)
Airtel	12(5.8)	25(12.1)	15(7.2)	3(1.4)	1(0.5)	3(1.4)	59(28.5)
Etisalat	0(0.0)	3(1.4)	1(0.5)	1(0.5)	0(0.0)	0(0.0)	5(2.4)
Mtel	3(1.4)	0(0.0)	0(0.0)	0(0.0)	0(0.0)	0(0.0)	3(1.4)
Total	46(22.2)	110(53.1)	35(16.9)	11(5.3)	2(1.0)	3(1.4)	207(100.0)

$$X^2(20) = 30.876, P = 0.057$$

Location				
Line	Abuja	Lagos	Port Harcourt	Total
GloMobile	29(14.0)	24(11.6)	26(12.6)	79(38.2)
MTN	17(8.2)	23(11.1)	21(10.1)	61(29.5)
Airtel	12(5.8)	26(12.6)	21(10.1)	59(28.5)
Etisalat	0(0.0)	5(2.4)	0(0.0)	5(2.4)
Mtel	3(1.4)	0(0.0)	0(0.0)	3(1.4)
Total	61(29.5)	78(37.7)	68(32.9)	207(100.0)

$$X^2(8) = 20.514, P = 0.009$$

Table - 6

Summary of Expenses and Source of Information

No	Summary of Expenses and source of information	N	(%)
1	Mobile Phone monthly expenses (in Nigerian Naira)		
	Monthly Expenses (US \$1=₦149.5)		
	₦2001 - ₦5000	148	(49.3)
	₦5001 - ₦10000	59	(19.7)
	More than ₦10000	38	(12.7)
	Less than ₦2000	55	(18.3)
	Total	300	(100.0)
2	Source of information on mobile phone products and services		
	Source of information		
	Radio / TV	260	(86.7)
	Friends / Relatives (word of mouth)	250	(83.3)
	Salesperson / Dealer at shops / Exhibition	36	(12.0)
	News paper / Magazine	95	(31.7)
	* Multiple options allowed N=300		

Table - 7

Analysis of unpleasant experiences

No	Respondents Unpleasant Experience	N	(%)
1	Have you had any unpleasant experience?		
	No	192	(64.0)
	Yes	108	(36.0)
		300	(100.0)
2	Description of last unpleasant experience		
	Poor line and network quality	55	(50.9)
	High priced	11	(10.2)
	Others unpleasant experiences (SIM card)	11	(10.2)
	Gives poor value for money	7	(6.5)
	Poor customer service hotline	6	(5.6)
	Poor service at customer service centre	5	(4.6)
	Staff is difficult for customers to deal with	3	(2.8)
	Poor payment/credit top-up system	3	(2.8)
	Poor value added services	3	(2.8)
	Poor billing system	2	(1.9)
	Staff does not understand customer needs	2	(1.9)
		108	(100.0)
3	*Action taken		
	Complained to sale men, customer service	106	(98.1)

	Told others, word of mouth	105	(97.2)
	Asked for refund or replacement	19	(17.6)
	Changed to another service network	16	(14.8)
	Wrote letters to report to media	4	(3.7)
	Stopped subscription	4	(3.7)
	Did nothing	2	(1.9)
	*Multiple options allowed N#108		
4	Unpleasant experience resolved?		
	Yes	108	(100.0)
	No	0	(0.0)
		108	(100.0)

Table - 8

Level of satisfaction on mobile telecommunication service

No	Mobile Telecommunication Service	%Not Satisfied*	% Satisfied*	Mean	Std. Deviation
1	Advertisement	3.3	96.3	5.91	.98
2	Recharge card Outlets	6.3	93.3	5.90	.99
3	Network Availability and Quality	15.0	81.7	5.24	1.33
4	Products and services	9.7	70.0	5.23	1.26
5	Value Added Services	15.7	73.3	4.89	1.46
6	Validity Period for prepaid line	22.3	67.7	4.89	1.65
7	Customer Care/Service	24.0	73.0	4.76	1.65
8	Billing / tariff	23.0	62.0	4.64	1.65

Table - 9

Summary of customer satisfaction on overall service

		%Not Satisfied	%Satisfied
Age	Young	13.8	83.8
	Old	14.9	78.7
Gender	Male	14.8	80.5
	Female	13.0	86.3
Employment	Employed	15.1	81.3
	Unemployed	8.3	91.7
Location	Outside Lagos	17.0	81.0
	Lagos	8.0	87.0

Predicting Working Women Purchasing Behaviour of Malaysian Halal Cosmetic Products by Using Theory of Planned Behaviour

Kamaljeet Kaur
Infrastructure University
Kuala Lumpur

Dr. Syuhaily Osman
University Putra Malaysia

Dr. Siti Maziha
Associate Professor
Infrastructure University
Kuala Lumpur

Abstract

This paper focuses on the Malaysian Working Women purchasing behaviour of Malaysian made halal cosmetic products. A self-administered questionnaire was designed as an instrument to gather information. The Theory of Planned Behaviour was used to measure the purchasing behavior. Three independent variables namely attitude, subjective norm and perceive behavioral control was used to determine purchasing behavior. A survey was conducted and 425 working women in the Klang Valley responded to the questionnaire. Results from the multiple regression showed that all the independent predictors are significant and subjective norm being the most important predictor. This study will provide the Malaysian halal cosmetic industry in particular with a greater understanding of the consumer behavior relating to halal cosmetics specially amongst working women. Lastly, recommendations and implications of finding have been discussed based on the findings.

Keywords- Halal Cosmetics, Purchasing Behavior, Theory of Planned Behaviour

INTRODUCTION

The steadily increasing number of working women in Malaysia has created some major impact to certain industries; one in particular is the cosmetic industry. The World Bank has predicted that the global income of women will grow by more than RM15.3 trillion (World Bank Report, 2012). With the stronger financial freedom and the desire to look good (Abedniya and Majid, 2011), this segment is a lucrative industry to be tapped in. According to trade sources, the cosmetic and toiletries industry recorded retail sales of 857 USD million in 2006, while the sales hit 1.1 USD billion in 2010 (Euromonitor, 2012).

However, for the Muslim consumers, cosmetic and personal care products has to be *halal*. Halal means the products are lawful or permissible to be consumed. Kamaruzaman (2008)

mentioned, even though it is a must for a Muslim to consume halal products and services but base on a survey conducted by KasihDia Consulting, reveals that the level of awareness of halal cosmetics among Muslims is still low. Phuah and Wan Jamilah (2013) quoted Hunter's (2012) work, and posited that not all Muslims look for the halal certifications when they purchase products and revealed that a majority of consumers will buy products without the halal certifications when there are no alternatives.

At the same time, the Malaysian cosmetic and personal care industry is still dominated by the global cosmetic giants with a market share of 60 percent and the Malaysian made halal industry has a meagre 0.5 percent of the total retail value (Norzaidi et al., 2012). Even though Malaysia is a predominately a Muslim

country, the halal cosmetic industry is yet to create a huge impact in the cosmetic industry in the country.

Thus, the objective for this study is to investigate the important determinants that effects the purchasing behaviour of the Malaysian working women towards the Malaysian made halal cosmetic products. In order to predict the determinants, the Theory of Planned Behaviour is used due to its robustness.

LITERATURE REVIEW

A. Working Women

According to Mahpul and Abdullah (2011), the increase in women labour force participation rate was largely resulted from the educational improvement, as better educated women are more likely than the lesser educated to be in the labour force. In Malaysia, the increase of women in the workforce is common phenomena when it appears 53% of women are the major contributors to the workforce and out of these 61% are women who are in the managerial and professional group (Public Service Department Malaysia, 2010).

The growth of the cosmetic industry and the participation of women joining the workforce are on an upward trend. Previous studies on cosmetics purchase intention largely concentrated on the young female and in most studies undergraduates were used as respondents (Stephen et al., 2007; Eze et al., 2012 and Phah and Wan Jamaliah, 2013). In this study, working women were used as respondents and their actual purchasing behavior trend was analyzed instead of intentions.

The usage of cosmetics and working women has been interest of a lot of researchers especially in the West. Cosmetics play a significant part in increasing attractiveness because it may, enhance facial symmetry (Mulhern et al.,

2003). Women who wears cosmetics, are to be said are more comfortable with their physical appearance, and indirectly project an air of confidence and self-belief according to Nash et al., 2006. Thus this interesting behavioral implication can manipulate their mood and behavior. This outcome is a salient factor in situations in which appearance is important such as job interviews (Fatt, 2000).

A very interesting finding by Nash et al., (2007) suggest that wearing cosmetics has a significant impact on their confidence and interestingly women were assigned with greater earning potential and more prestigious jobs when they were presented wearing cosmetics. Therefore, this study would like to study the working women as respondents from various sectors and occupational level as respondents in Malaysia and their purchasing behavior to Halal cosmetics.

B. Halal Cosmetics

Halal cosmetics are products that must not have any human parts or ingredients thereof; not containing any animal forbidden to Muslims or are not slaughtered according to syariah law; no genetically modified organism (GMO) which are decreed as najis; no alcohol drinks (khamar); no contamination from najis during preparation, processing, manufacturing and storage; and safe for consumer (MOSTI, 2008). Muslims nowadays, are becoming more conscious and concern over the presences of chemical and non-halal ingredients in their cosmetic and personal care products (Phuah and Wan Jamaliah, 2013).

It is reported by Patton (2009) that the demand for Halal cosmetics worldwide is on the rise, driven not only by more affluent Muslim consumers but also growing interest in high quality, and safe products. As the demand for halal

cosmetics in the rise, this industry should be given utmost attention and strategies need to be developed effectively to bring greater heights to the industry which is still underdeveloped but full of potential. Therefore, this study looks specifically at the halal cosmetics which are made in Malaysia.

C. Theory of Planned Behaviour

The Theory of Planned Behaviour (TPB) postulates three conceptually independent determinants of behavioral intention: attitude, subjective norm and perceived behavioral control (Ajzen, 1991). Attitude is the psychological tendency that is expressed by evaluating an entity with the support or otherwise at a certain rate (Eagly and Chaiken, 1995). Subjective norm is to assess the social pressure on individuals to do or not do behavior, for examples, motivation to meet and follow the views of others. Perceived behavioral control is described as perceptions of the extent to which the behavior is considered to be controllable. It assess the limits of control the behavior of a person (Liou and Contento, 2001; Karijin, Iris, Florence and Wim, 2007).

The three independent variables attitude, subjective norm and perceived behavioral control determine the dependent variable intention. Intention, although not being a perfect predictor of behavior, is still accepted as the best predictor available (Kim and Han, 2010).

Various studies have used the TPB in measuring purchase intention and behavior of cosmetic products. A study by Lee and Park (2012) showed that all the variables in the Theory of Planned Behaviour are statistically significant in predicting the purchasing behavior of skin care behavior and makeup. Other relevant studies such as the usage of organic personal care products (Kim and Chung,

2011), sunscreen purchase intention amongst Young Moroccan adults (Bachleda, Fakhar and Hlimi, 2012) which can be categorised as personal care product closest to the cosmetic product category conforms to the predictability of the TPB model. The Halal product dimension has also been tested by using the TPB theory in research pertaining to the food category (Alam and Sayuti, 2011) and TRA has been used to predict intention to choose halal products (Lada, Tanakinjal and Amin, 2009).

Most of previous studies have empirically tested robustness of the TPB theory in predicting purchasing behavior. However there are insufficient studies, in testing this theory in predicting on the purchasing behavior of Malaysian made Halal cosmetics. This study fills the above mentioned research and knowledge gap.

D. Research Model

Base on the literature review above, Figure 1 shows the research model which is used in the study.

Insert figure 1.

The relative importance of attitude, subjective norm and perceive behavioral control in the prediction of intention is expected to vary across behaviors and situations (Ajzen, 1991). Therefore, the following hypothesis needs to be substantiated:

H1: There is a significant and positive relationship between attitude and behavior to purchase Malaysian made halal cosmetics.

H2: There is a significant and positive relationship between subjective norm and behavior to purchase Malaysian made halal cosmetics.

H2: There is a significant and positive relationship between perceive behavioral

control and behavior to purchase Malaysian made halal cosmetics.

RESEARCH METHODOLOGY

In this study, primary data was collected through self-administrative questionnaire. The research tool used is Likert Scale and the statistical tool used is Multiple Regression using IBM SPSS software version 21. A mall-intercept technique was used to carry out the survey. Two screening questions were asked to the respondents that were selected via purposive sampling procedure; 1) are you working. 2) Have you ever purchased Malaysian made halal cosmetics?

A total of 440 questionnaires were distributed but only 425 questionnaires were valid for further analysis. The 15 invalid questionnaires were considered unusable because they were incomplete.

DATA ANALYSIS AND DISCUSSIONS

A. Descriptive Analysis

Based on the survey the race distribution shows, Malay consist 62.4% followed by the Chinese at 21.6%, Indian at 13.6% and 2.4% were others. The majority of the respondents were lesser than 25 years of age (39.3%), followed by more than 32 years of age (32.9%) and the remaining 27.8% of the respondents were between 26 to 31 years old.

The reliability of a measure indicates the stability and consistency with which the instrument measures the concept and helps to assess the "goodness" of a measure (Cavan, Delahaye and Sekaran, 2001). Based on the analysis, all the variables are reliable in this study. Attitude has a reliability of 0.926 which is considered strong, subjective norm has a reliability of 0.867 and perceived behavioral control has a reliability of 0.853. Lastly, the dependent variable has a good reliability of 0.850. In

conclusion, the results showed that the scores of the Cronbach alpha for all the constructs used in this research exceed the preferable scores of 0.70 as recommended by Cavana, et al., (2001) and indicated that the measurement scales of the constructs were stable and consistent.

B. Regression Analysis

Before employing regression analysis, there are six assumptions to be addressed. The assumption include: (1) normality; (2) linearity; (3) independence of error term; (4) free from multicollinearity; (5) free from heterocedasticity; and (6) free from outlier and influential observation (Field, 2005). The data met all the assumption criteria's and the multiple regression analysis was used to test the data.

Table 1 shows the Multiple regression analysis between variables. R squared shown in Table 1 is 0.649. This means that regression equations accounted for 64.9 percent of the variance of the dependent variable. The results demonstrate that there are significant relationships between attitude, subjective norm, perceive behavioral control towards the purchasing behavior of Malaysian made halal cosmetic products by Malaysian working women ($p < 0.001$). Therefore all the three hypothesis; H1, H2 and H3 are supported.

Based on the results, the highest beta value is 0.356 which is subjective norm followed by beta value of perceive behavioral control is 0.296; the beta value of attitude is 0.218. Based on the beta value, it is indicated that the strongest forecast of purchasing behavior is subjective norm in the purchasing behavior of Malaysian made halal cosmetics by the Malaysian working women. Meanwhile, the t value for attitude is 4.348, t value for

subjective norm is 6.133 and lastly the t value for perceive behavioral control is 6.045.

From the empirical findings, three hypotheses are supported. Further discussion of each finding on the relationship all the independent variables are presented in the next section.

CONCCLUSION AND LIMITATION

A. Findings

This study once again is able to support the robustness of the Theory of Planned Behavior (TPB) in facilitating in the prediction of Malaysian made halal cosmetic products. The study results show that the TPB model could explain 64.9 percent of the variance in the purchasing behavior. The model was statistically significant and this result demonstrates again vigor of the TPB for helping to explain the TPB as theoretical framework from which to examine the purchase intention (Bredhal, et al., 1998).

Based on the results presented, the p value of the attitude ($p=0.000$) is less than the alpha value of 0.001. Therefore, the research concludes that attitude is positively related to the purchasing behavior of Malaysian made halal cosmetic products by Malaysian working women. Hypothesis 1 is supported. The findings support the existing literature which states the more positive attitude towards halal products the higher the likeliness to purchase it (Lada, et al., 2009).

Hypothesis 2 which is subjective norm will influence the attitude of person to purchase Malaysian halal cosmetic is also supported at ($p=0.000$) which is lesser than the alpha value of 0.001. The beta weight of this variable is the strongest as shown in Table 1. Therefore subjective norm has been shown as the most influential driver of purchasing behavior amongst Malaysian

working women. This is in line with Lada, et al., 2009; Siti, et al., 2009 and Hema and Bakkappa 2012. In the context of multiracial and multicultural society and collective society, in Malaysia subjective norm plays an important role where family members, friends and colleagues are strong referent points. This is particular more pertinent in the purchases of cosmetic products as stated by Siti, et al., 2009.

Lastly, Hypothesis 3 which is also supported at the ($p=0.000$) and which is lesser than the alpha value of 0.001. Base on Table 1, the beta weight for perceive behavioral control is the second most important factor in predicting the purchasing behavior. Hypothesis 3 shows that there is a significant and positive relationship between perceive behavioral control and purchasing behavior of Malaysian made halal cosmetics. This finding is similar to previous studies such as Karijin et al., 2007; and Alam and Sayuti, 2011 in the context of halal food. Muslims are willing to put considerable effort in searching for halal products. It could be in the context of time, knowledge or money.

The TPB model appeared to effectively predict purchasing behavior of Malaysian made halal cosmetic products. To further spur the halal cosmetic industries the relevant governmental organizations, like JAKIM, MATRADE and MIDA should focus on creating social expectations regarding halal cosmetics and improving consumers' sense of their ability to purchase halal cosmetic by strategically branding and promoting the halal cosmetic brands. Past research may provide guidance in developing these perceptions, beliefs and attitudes.

B. Limitation and suggestions for further research

Future research should further incorporate other independent variable that

could improve the predictability of this study. For instance, the factor which are important the in the purchases of cosmetics should be introduced; such as quality, brand name, promotions and price. In the context of halallness, the halal certification can be introduced as an independent variable.

This study should also further look at the aspect of religiosity level of consumers and their keenness in the purchasing of halal cosmetics.

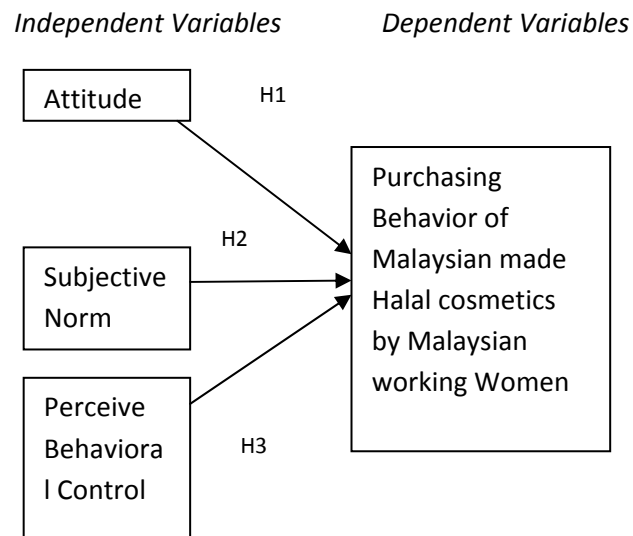
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Figure - 1**A schematic diagram of research framework****Table 1: Result of Multiple Linear Regression Analysis**

	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	-2.445	0.567		-4.314	0.000
Attitude	0.086	0.020	0.218	4.348	0.000
Subjective Norm	0.200	0.033	0.356	6.133	0.000
Perceived Behavioral Control	0.183	0.030	0.296	6.045	0.000

Dependent Variable : Purchasing Behaviour

R = 80.5 percent; R^2 = 64.9 percent; Adjusted R Square = 64.6 percent;

F= 258.939; P= 0.000 ($p < 0.001$)

Comparative Study of Public and Private Sector Banks in India: Analysis of CAMEL and DEA Approach

Dr. Manoj Kumar Mishra

Associate Professor

Department of Management,

International School of Management Patna, India.

Email: manojeconomist@yahoo.co.in

Dr. Veena Kumari

Assistant Professor

Department of Economics,

Firoze Gandhi College Patna, Bihar, India.

Email: drveenaeco@gmail.com

Abstract

The objectives of this paper are to analyze the soundness and to measure the efficiency of 12 public and private sector banks based on market cap. CAMEL approach has been used over a period of twelve years (2000-2011), and it is established that private sector banks are at the top of the list, with their performances in terms of soundness being the best. Public sector banks like Union Bank and SBI have taken a backseat and display low economic soundness in comparison. DEA results exhibit that among the public sector banks, the performance of Bank of India, Canara Bank and Punjab National Bank got dampened in the last two years under study where as among the private sector banks, except Axis Bank which was not found to be satisfactory at all, the remaining private sector banks shows marked consistency at their efficiency level during the period under study.

Key Words: CAMEL approach, DEA Approach, Public and Private Sector Banks, Financial Stability.

INTRODUCTION

The Indian Banking Sector has been the backbone of the Indian economy over the past few decades, helping it survive various national and worldwide economic shocks and meltdowns. It is one of the healthiest performers in the world banking industry seeing tremendous competitiveness, growth, efficiency, profitability and soundness, especially in the recent years. Various aspects of the Indian Banking Sector have been highlighted in recent studies. Many of these refer to Convergence and Soundness of the sector. There has been a lot of literature covering both of these aspects and, to a great extent, establishing different relationships between these and key macroeconomic and financial variables. Convergence, as regards to Indian Banking, could refer to the convergence between various categories of banks including Public Sector Banks, Old and

New Private Sector Banks, Foreign Banks etc. or to the convergence of the existing accounting standards in the country with the internationally accepted accounting standards (IFRS). In the former case, various studies based on different econometrics parameters have been conducted to show a pattern that is emerging in this sector where increased privatization and competitiveness are leading all kinds of banks to an optimum performance and efficiency level, or in other words, banks are converging to an optimum efficiency level. As regards to the latter, the RBI and the Institute of Chartered Accountants of India (ICAI) have decided to converge the current Generally Accepted Accounting Principles (GAAP) and the International Accounting Standards (IAS) with the now internationally accepted and widely implemented International Financial Accounting Standards (IFRS) for various different reasons, the most

important being India's increasing participation in global markets.

Soundness is a key factor in any financial sector. One of the major measures of economic development and financial growth of a country has been the soundness of its banks. Soundness of the banking sector is synonymous with efficiency, productivity, profitability, stability and a shock free environment. Achieving stability in banking is only the beginning of a sound banking system. The main goal of banks today is to maintain stability and make sure they are impervious to external shocks while at the same time being internally sound and sensible. Hence, it is important to measure soundness across various banks in the country, identify the weaker sections of the banking sector, devise appropriate strategies and policies to lift these sections and eventually create an environment that leads banks to converge in soundness and result in a consistently stable system. This study analyzes the various aspects of convergence and soundness in the Indian Banking sector, computes various factors affecting and determining the two using econometric analysis and provides policy suggestions on tackling obstacles encountered while achieving soundness and convergence and how to maintain stability for longer periods.

REVIEW OF LITERATURE

The paper by Prasad et al (2011) along with that by Chowdhury (2011) deals with financial soundness in the Indian banking sector using the CAMEL model. Both papers have selected certain PSBs and NPBs on some criteria and both suggest that the Indian Banking is sound overall, but the authors themselves only rank various banks in order of soundness while not making a conclusive statement about soundness of the banking sector as a whole. On similar lines, Manoj P. K. (2010) has written a paper on application of

'CAMEL' approach to OPBs with special reference to Kerala OPBs. His conclusion is that OPBs lag the most as regards to soundness in banking and remedial measures be quickly adopted by these, but the paper doesn't describe the method to achieve better soundness. Reddy and Prasad(2011) have applied the 'CAMEL' approach to Rural Regional banks in India and used hypothesis testing aided by the t-statistic to distinguish between two classes of these banks. However, this could have been extended to other banks in the country. Papers by Gupta and Jain (2010), Singh (2007), Satoshi Shimizu (2010) and Ghosh and Ghosh (2011) use parameters like Return on Assets, NPA Ratio, and Capital Adequacy Ratio etc. to measure soundness of Indian banks and compare with that of the world. (1), (2)& (4) highlight a lower degree of leverage, higher stability in ROA and decreasing NPA ratios leading to soundness in Indian banking. Most of (1) & (4) deal with NPAs without highlighting further soundness estimators. (2),(3) and papers by Raghavan (2003) and Sharma (2009) talk about Basel-II analysis associated with risk management and explain its relationship with soundness, with the main focus on a higher CRAR for better soundness. Sen Gupta's (2011) paper deals with the introduction of Basel III norms post the 2008 financial crisis, the challenges associated with their implementation but doesn't specify how much of Basel III should India adopt. He concludes that maintenance of financial stability requires constant vigilance and proactive measures but doesn't delve deep into the procedure required for the same. The paper by Gupta et al (2008) and another by Das et. al (2005) examine the performance of the Indian Banking Sector using the non- parametric frontier: DEA – Data Envelopment Analysis and further finding the productive efficiency using the TOBIT model. Through these, it was found that the efficiency increase in the private

bank sector has come from the small banks. Using Capital Adequacy Ratio analysis, the paper finds that an increase in CAR results in higher productive efficiency which stems out of high profitability of banks and thus better soundness.

Paper by Shahchera and Jouzdani (2011) investigates the impact of regulation on sound banking. The authors measure the Z-score of soundness and suggest more transparency and better information exchange for sound banking. They also prove the \cap shape relationship between regulation of banking and financial soundness. The paper by Ghosh (2010) analyses the performance of the previously owned state-owned banks after the partial privatization. Privatization improves bank soundness, enhances profitability and efficiency. Government ownership has been empirically proven to be detrimental to growth. It was synonymous to higher spread, lower resources to lend and a low activity on the stock market. Apart from the above measures, the paper by Shirai (2001), highlights the impact of diversification of banking activities. It dilutes the impact of direct lending and thus enhances the soundness by encouraging the banks to function properly. Goyal (2010) in his paper analyses the various risk management measures and strategies in place in India owing to increase in competition, deregulation, innovative financial instruments and delivery channels. Market discipline improves safety and soundness in banks and financial systems. Das(2010), in his paper analyses that, while the profitability of all banks went up, the profitability of foreign banks was higher. The main aim of these reforms was to enhance the soundness and this was seen through credit deposit ratios; wherein a higher ratio depicted greater soundness. The asset quality was indicative of the structural soundness of the banks which was higher in PSBs whereas the financial

soundness in terms of profitability was higher for Pvt. Sector banks (ROA and ROE). The paper by Chaudhry and Singh (2012) analyzes the impact of the financial reforms of 1991 on the increase in soundness of Indian Banking through its impact on the asset quality. The key players to ensure this soundness are again, risk management, NPA levels, effective cost management and financial inclusion. In another paper, Ghosh (2010) examines the interplay between credit growth bank soundness and financial fragility in Indian banks. The soundness of banks is measured by their distance to default. Loan growth is often directly associated with soundness but an extension could weaken bank soundness. Also high growth in the private sector credit augments bank soundness. The paper by Santha et. al (2006) highlights the importance soundness on the economic development of a country. It draws a direct relation between the integrity system, the capacity to innovate and the soundness of the banks. It throws light on the importance of intellectual capital and infrastructure amongst the other factors. Due to variation in the drivers for soundness, the gap in soundness between developing, UDCs and developed countries is wide. Empirical analysis using OLS show that there is a positive yet insignificant relationship between infrastructure and intellectual capital and soundness, while it is significant with regards to institutions and integrity.

METHODOLOGY OF THE STUDY

(A)CAMEL Analysis

To look at the financial soundness and infer about convergence of the commercial banks operating in India we use a very simplified approach using internationally accepted CAMEL rating parameters. CAMELS is an acronym for six measures (capital adequacy, assets quality, management soundness, earnings, liquidity, and sensitivity to market risk)

(Hilbers et al 2000). In this analysis the six indicators which reflect the soundness of the institution framework are considered. Twelve commercial banks were selected purposively for the study. The banks selected for the purpose for the study are traded in National Stock Exchange and are part of CNX bank Index. CNX Bank Index is an index comprised of the most liquid and large capitalized Indian Banking stocks. It provides investors and market intermediaries with a benchmark that captures the capital market performance of the Indian banks.

The banks selected for the purpose of the study are Axis Bank Ltd. Bank of Baroda(BOB), Bank of India(BOI), Canara Bank, HDFC Bank Ltd (HDFC),ICICI Bank Ltd(ICICI), IDBI Bank Ltd(IDBI), Kotak Mahindra Bank Ltd(KMB), Oriental Bank of Commerce (OBC), Punjab National Bank (PNB), State Bank of India(SBI) and Union Bank of India(Union Bank). Once soundness across banks is determined using the CAMEL model, inferences can be drawn regarding convergence across these banks based on the model. The ratios depicting the CAMEL parameters were calculated based on the publicly available information published at Reserve Bank of India, Indian Bankers' Association and Moneycontrol.com. The paper referred to for further details, analysis and data for the year 2011. The CAMEL parameters are discussed in the following section

(a). Capital Adequacy Ratio

Capital adequacy ratios ("CAR") are a measure of the amount of a bank's core capital expressed as a percentage of its risk-weighted asset. Capital adequacy ratio is defined as

$$\text{CAR} = (\text{Tier 1 Capital} + \text{Tier 2 Capital}) / \text{Risk weighted Assets}$$

TIER 1 CAPITAL - (paid up capital + statutory reserves + disclosed free reserves) - (equity investments in

subsidiary + intangible assets + current &b/f losses)

TIER 2 CAPITAL-A) Undisclosed Reserves, B)General Loss reserves, C) hybrid debt capital instruments and subordinated debts where Risk can either be weighted assets (a) or the respective national regulator's minimum total capital requirement. If using risk weighted assets,

$$\text{CAR} = [(T_1 + T_2) / a] \geq 10\%$$

The percent threshold varies from bank to bank (10% in this case, a common requirement for regulators conforming to the Basel Accords) is set by the national banking regulator of different countries. Two types of capital are measured: tier one capital (T1 above), which can absorb losses without a bank being required to cease trading, and tier two capital (T2 above), which can absorb losses in the event of a winding-up and so provides a lesser degree of protection to depositors.

(b). Asset Quality

To account for the extent of Non Performing Asset in the portfolios of the banks and the extent of damage this particular asset class can have on the financial performance the following ratio is considered for the purpose of analysis.

Net NPA to Net Advances: The ratio portrays the quality of the asset class in the portfolio and the also the extent of deterioration of the quality of the asset portfolio. This dimension of CAMEL analysis conveys the portfolio risk the bank is subjected to and the effects it could have in the overall performance of the bank.

(c). Management Quality

The management dimension in CAMEL analysis has assumed much important position like never before. To capture the possible dynamics of management efficiency affecting the financial performance of the banks the following ratios are considered.

Market Value to Equity Capital
 Total Advances to Total Deposits
 Business Per Employee
 Profit Per Employee

(d). Earnings Quality

Banks depend on their strong capability of earnings for performing the activities like funding dividends, maintaining adequate capital levels, providing for opportunities of investment for bank to grow, strategies for engaging in new activities and maintaining the competitive outlook.

However apart from the sources of earning, the following dimensions also decide significantly the financial performance of the banks.

Level, trend, and stability of earnings
 Quality and sources of earnings
 Ability to augment capital through retained earnings
 Exposure to market risks
 Provisions for loan losses

Keeping in purview the above mentioned dynamics the following ratios in the dimension of earning ability of the banks to measure financial performance are considered.

Operating profit by Average working funds
 Net profit to average assets
 Interest income to total income
 Non Interest income to total income

(e). Liquidity

Liquidity management in banks has assumed prime importance due to competitive pressure and the easy flow of foreign capital in the domestic markets. The impact of liquidity crisis in the banks can adversely impact the financial performance of the banks. Inability of the banks to manage its short term liquidity liabilities and loan commitments can adversely impact the performance of the banks by substantially increasing its cost of

fund and over exposure to unrated asset category. Also the cash flow from principal and interest payments could vary due to the types of loans on the balance sheet impacting the liquidity position.

To capture the impact of liquidity on the financial performance of the banks two ratios are considered.

Liquid assets to total assets
 Liquid asset to total deposit

Based on the values of the ratios the selected banks will be ranked. Higher average value of the ratios gets ranked higher. The best ratio gets rank one followed up to rank twelve with an interval of one. In case of tie the average rank is assigned to the banks. All the ratios having higher value get higher rank whereas the ratio Net NPA to Total Asset gets the rank in reverse order. Higher Net NPA to Total Asset ratio attracts lower rank as well.

(B) DEA Analyses

The focus of the paper is also to assess the efficiency of the select banks. There are two approaches for determining efficiency of a firm: parametric (econometric) and non-parametric (based on mathematical programming). The parametric approach is based on the underlying relationship between the parameter under study and various observed independent variables. It, therefore, requires a specific pre-specified function form of the production or cost function. Non-parametric approaches have the benefit of not assuming a particular functional form/shape for the frontier; however they do not provide a general relationship (equation) relating output and input.

Data envelopment analysis (DEA) is a nonparametric method in operations research and economics for the estimation of production frontiers. It is used to empirically measure productive efficiency of decision making units (or DMUs). It is a

very powerful service management and benchmarking technique originally developed by Charnes, Cooper and Rhodes (1978) to evaluate nonprofit and public sector organizations. DEA compares service units considering all resources used and services provided, and identify the most efficient units or best practice units (branches, departments, individuals) and the inefficient units in which real efficiency improvements are possible (Rajput and Gupta, 2011). The primary elements in a DEA study are a set of *decision-making units* (DMUs), along with their measured inputs and outputs. The DMUs may be different branches of the same large bank, or different hospitals in the same region or different offices of the same insurance company, but they should be reasonably homogeneous and separately managed. In the ideal case, the DMUs have a well defined set of common inputs and outputs. The purpose of DEA is to determine which of the DMUs make efficient use of their inputs and which do not. For the inefficient units, the analysis can actually quantify what levels of improved performance should be attainable. In addition, the analysis indicates where an inefficient DMU might look for benchmarking help as it searches for ways to improve. DEA produces a single, comprehensive measure of performance for each of the DMUs. If the situation were simple, and there were just one input and one output, then we would define performance as the ratio of output to input, and we would likely refer to this ratio as "productivity" or "efficiency." The best ratio among all the DMUs would identify the most efficient DMU, and every other DMU would be rated by comparing its ratio to the best one.

Some of the advantages of DEA are:

- no need to explicitly specify a mathematical form for the production function proven to be useful in

- uncovering relationships that remain hidden for other methodologies capable of handling multiple inputs and outputs capable of being used with any input-output measurement the sources of inefficiency can be analysed and quantified for every evaluated unit

Some of the disadvantages of DEA are: results are sensitive to the selection of inputs and outputs (Berg 2010) cannot test for the best specification (Berg 2010). The number of efficient firms on the frontier tends to increase with the number of inputs and output variables (Berg 2010).

In the DEA methodology, formally developed by Charnes, Cooper and Rhodes (1978), efficiency is defined as a ratio of weighted sum of outputs to a weighted sum of inputs, where the weights structure is calculated by means of mathematical programming and constant returns to scale (CRS) are assumed. In 1984, Banker, Charnes and Cooper developed a model with variable returns to scale (VRS) (The details of which is given in the Appendix). The constant returns-to-scale (the CCR score) is a kind of "global" efficiency measurement in which inefficiencies due to pure technical reasons are confounded by inefficiencies due to the scale of operations. The variable returns-to-scale (VRS) score represents a more strict "local" definition of efficiency, devoid of the scale effect, and so it is always larger. It is therefore possible to decompose the global CCR efficiency as:

CCR score = (pure) efficiency score x scale efficiency = VRS score x scale efficiency

The results in this paper show the pure technical efficiencies (VRS scores) and the scale efficiencies as defined above. Note that if a unit is fully efficient under the constant returns-to-scale assumption, it is also fully efficient under the variable returns-to-scale one, but the converse is not necessarily true. The

"Returns-to-scale" column contains the characterization of the area where each unit operates, that is, whether scale inefficiencies are due to increasing or decreasing returns-to-scale. The last column, "NIRS score" (from non-increasing returns-to-scale) contains the score obtained by an auxiliary model which is required to obtain this characterization.

RESULTS

The overall ranking of the banks considering all the sub criteria rankings under CAMEL analysis over the eleven years period (2000-2011) is presented in the Table 1-6. The group rankings of all the banks considered for the purpose of study is taken and averaged out to reach at the overall grand ranking (Table 6). HDFC is ranked first under the CAMEL analysis followed by ICICI. Axis Bank occupied the third position. The fourth position is occupied by IDBI and KMB jointly while Bank of Baroda and PNB follow. The last position under CAMEL analysis is occupied by Union bank amongst all the selected banks during the year 2000-2011.

Insert Table 1

Insert Table 2

Insert Table 3

Insert Table 4

Insert Table 5

Insert Table 6

The study has measured the efficiency level of 12 selected banks operating in India during the recent three years from 2010-12 by assessing the efficiency scores and to observe the relative efficiency of the banks using DEA analysis. All the CRS (output), VRS (output) and scale efficiency scores of the banks are given in Table 7.

Table 7 shows the technical efficiency scores for all the 12 DMUs. Here

what we found that among the public sector banks, the performance of Bank of India, Canara Bank and Punjab National Bank got dampened in the last two years under study where as among the private sector banks, the performance of Axis Bank was not found to be satisfactory during the period under study. Moreover, the performance of majority of private sector banks was impressive, but on the other hand, such trend could not be observed in the case of most of the public sector banks.

Insert Table 7

CONCLUSIONS AND POLICY RECOMMENDATIONS

Here we have obtained a ranking of various Indian banks' in terms of their CAMEL variable values. Ranking the commercial banks is difficult to the extent that any type of ranking is subject to criticism as the ratios used for the purpose of ranking can be interpreted in the way one likes. This method of analysis provides a simplistic, reader friendly version of presenting complex data regarding performance of a set of players in the banking industry. The ranking system makes judging and analysing the financial data of banks much simpler for the common man. Thus through this particular data set, it can be established that private sector banks are at the top of the list with their performances in terms of soundness being the best. Public sector banks like Union Bank and SBI have taken a backseat and display low economic soundness in comparison. This implies that the Government needs to focus more on the Public Sector Banks in order to increase the net profit to average assets ratio, profit per employee etc. Although these will be good for the soundness of the bank, it may defeat the purpose of Public Sector Banks lending at comparative lower rates. As for convergence, using parameters of the CAMEL model, we can see that the private

sector banks are heading towards convergence, not in the short, but in the long run. Most of these banks, including ICICI, Axis and HDFC lie in a similar rank region. However, these banks' assets etc. vary a great deal and they cannot be judged solely based on the absolute values of the CAMEL ratios. Looking at the trend, we can say that private banks are growing at a faster pace than public sector banks and will head towards convergence faster than the PSBs. DEA provides significant insights on efficiency of different banks and places private sector ones at an advantage situation and thereby hints out the possibility of further improvisation of most of the public sector banks. Nonetheless, further investigations are needed in order to identify approaches for each bank to increase efficiency by moving towards the efficient frontier.

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Table 1: Capital Adequacy Parameter -Group Ranking

	Axis	BOB	Canara	BOI	HDFC	ICICI	IDBI	KMB	Oriental	PNB	SBI	UBI
Capital adequacy ratio Tier I	9	5	7	11	4	3	2	1	10	8	6	12
Advances to total assets ratio	10	6	4	2	12	8	1	11	7	5	9	3
Average	9.5	5.5	5.5	6.5	8	5.5	1.5	6	8.5	6.5	7.5	7.5
Rank	12	2.33	2.33	6	10	2.33	1	5	11	6	8.5	8.5

Table 2: Asset Quality Parameter Group Ranking

	Axis	BOB	Canara	BOI	HDFC	ICICI	IDBI	KMB	Oriental	PNB	SBI	UBI
Net NPA to Net Advances (%)	4	8	6	11	1	5	12	2	3	7	10	9

Table 3: Management Quality Parameter Group Ranking

	Axis	BOB	Canara	BOI	HDFC	ICICI	IDBI	KMB	Oriental	PNB	SBI	UBI
Market value to equity capital	4	7	8	10	2	3	12	6	9	5	1	11
Total Advances to Total Deposits	12	9	7	4	10	3	1	2	11	8	6	5
Business Per Employee	2	6	7	8	4	3	1	12	5	10	11	9
Profit per Employee	3	9	10	7	5	2	1	6	8	4	12	10
Average	5.3	7.8	8.0	7.3	5.3	2.8	3.8	6.5	8.3	6.8	7.5	8.8
Rank	3.5	9	10	7	3.5	1	2	5	11	6	8	12

Table 4: Earnings Quality Parameter Group Ranking

	Axis	BOB	Canara	BOI	HDFC	ICICI	IDBI	KMB	Oriental	PNB	SBI	UBI
Operating profit by Average working funds	3	9	7	11	1	6	12	2	4	5	10	8
Net profit to average assets	3	9	7	11	2	6	12	1	5	4	10	8
Interest income to total income	10	5	7	6	9	11	3	12	1	4	8	2
Non Interest income to total income	8	6	7	4	2	10	1	12	9	5	11	12
Average	6	7.25	7	8	3.5	8.25	7	6.75	4.75	4.5	9.75	7.5
Rank	4	8	6	10	1	11	6	5	3	2	12	9

Table 5: Liquidity Parameter Group Ranking

	Axis	BOB	Canara	BOI	HDFC	ICICI	IDBI	KMB	Oriental	PNB	SBI	UBI
Liquid assets to total assets	2	1	5	7	4	6	12	11	8	9	3	10
Liquid asset to total deposit	6	7	8	2	5	3	1	10	9	11	4	12
Average	4	4	6.5	4.5	4.5	4.5	6.5	10.5	8.5	10	3.5	11
Rank	2.5	2.5	7	4.33	4.33	4.33	7	11	9	10	1	12

Table 6: Overall Rankings Based on the Camel Parameter

	Axis	BOB	Canara	BOI	HDFC	ICICI	IDBI	KMB	Oriental	PNB	SBI	UBI
Capital Adequacy Parameter -Group Ranking	12	2.33	2.33	6	10	2.33	1	5	11	6	8.5	8.5
Asset Quality Parameter Group Ranking	4	8	6	11	1	5	12	2	3	7	10	9
Management Quality Parameter Group Ranking	3.5	9	10	7	3.5	1	2	5	11	6	8	12
Earnings Quality Parameter Group Ranking	4	8	6	10	1	11	6	5	3	2	12	9
Liquidity Parameter Group Ranking	2.5	2.5	7	4.33	4.33	4.33	7	11	9	10	1	12
Average	5.20	5.97	6.27	7.67	3.97	4.73	5.60	5.60	7.40	6.20	7.90	10.10
Rank	3	6	7	10	1	2	4	5	8	9	11	12

Source: (1) Reserve Bank of India (<http://dbie.rbi.org.in/DBIE/dbie.rbi?site=home>)

(2) Indian Banks' Association (<http://www.iba.org.in/>)

(3) moneycontrol.com: India's No.1 Financial Portal
(<http://www.moneycontrol.com/stockmarketsindia/>)

Note: Estimated by the authors.

Table 7: Efficiency Scores of Selected Banks (using DEA)

	2010				
	Efficiency scores	Scale efficiencies	Returns-to-scale	CCR	NIRS
BOB	1.0000	1.0000	constant	1.0000	1.0000
BOI	0.9930	1.0000	increasing	0.9929	0.9929
Canara	1.0000	1.0000	constant	1.0000	1.0000
Oriental	1.0000	1.0000	constant	1.0000	1.0000
PNB	1.0000	1.0000	constant	1.0000	1.0000
UBI	0.9889	0.9690	decreasing	0.9583	0.9889
SBI	1.0000	0.9990	decreasing	0.9990	1.0000
IDBI	1.0000	1.0000	constant	1.0000	1.0000
Axis	1.0000	0.9257	decreasing	0.9257	1.0000
HDFC	1.0000	1.0000	constant	1.0000	1.0000
ICICI	1.0000	1.0000	constant	1.0000	1.0000
KMB	1.0000	1.0000	constant	1.0000	1.0000

	2011				
	Efficiency scores	Scale efficiencies	Returns-to-scale	CCR score	NIRS score
BOB	1.0000	1.0000	constant	1.0000	1.0000
BOI	0.9002	0.9977	decreasing	0.8982	0.9002
Canara	1.0000	0.9434	decreasing	0.9434	1.0000
Oriental	1.0000	0.9424	increasing	0.9424	0.9424
PNB	1.0000	0.9764	decreasing	0.9764	1.0000
UBI	0.9543	0.9994	increasing	0.9537	0.9537
SBI	1.0000	1.0000	constant	1.0000	1.0000
IDBI	1.0000	1.0000	constant	1.0000	1.0000
Axis	1.0000	0.8821	decreasing	0.8821	1.0000
HDFC	1.0000	1.0000	constant	1.0000	1.0000
ICICI	1.0000	1.0000	constant	1.0000	1.0000
KMB	1.0000	1.0000	constant	1.0000	1.0000

	2012				
	Efficiency scores	Scale efficiencies	Returns-to-scale	CCR score	NIRS score
BOB	1.0000	1.0000	constant	1.0000	1.0000
BOI	0.9987	0.9955	decreasing	0.9942	0.9987
Canara	1.0000	0.9669	decreasing	0.9669	1.0000
Oriental	1.0000	1.0000	constant	1.0000	1.0000
PNB	0.9954	0.9449	decreasing	0.9405	0.9954
UBI	1.0000	1.0000	constant	1.0000	1.0000
SBI	1.0000	1.0000	constant	1.0000	1.0000
IDBI	1.0000	1.0000	constant	1.0000	1.0000
Axis	1.0000	0.8842	decreasing	0.8842	1.0000
HDFC	1.0000	0.9313	decreasing	0.9313	1.0000
ICICI	1.0000	1.0000	constant	1.0000	1.0000
KMB	1.0000	1.0000	constant	1.0000	1.0000

The Impact of International Financial Crisis on the Efficiency of Omani Banks' Performance: an Empirical Study

Dr. Zaroug Osman Mohamed
Assistant professor
Dhofar University, Oman
zosman@du.edu.om

Dr. Adil Hassan Khalid
Assistant professor
Sohar University, Oman
a.hassan@soharuni.edu.om

Abstract

Although, there is huge number of published researches in banking efficiency, little effort has been undertaken to study the impact of financial crisis on banking performance in Oman. In view of this, the main purpose of this paper is to illustrate, using empirical evidence, the extent to which the recent international financial crisis had an impact on the financial performance of the banking sector in Oman. In other words, the main question this paper aims to answer is; what extent the international financial crisis has an impact on the efficiency of Omani banks' performance. The data used to answer this question includes all relevant statistics related to Omani commercial banks. A number of financial measures are used to compare the statistics for each bank before (three years; namely; 2005, 2006 and 2007) and after (three years; namely; 2009, 2010 and 2011) the financial crisis to find out the impact of the financial crisis on the efficiency of the Omani banks' performance. A simple t-test of the difference between means is conducted to check whether there is a significant difference in banks' performance before and after the crisis.

Overall, the results show that the effect of international financial crisis on the Omani banks' has not been significant. Instead; the analysis reveals there is a statistically insignificant improvement in the efficiency of Omani banks' performance following international financial crisis. Furthermore; the paper shows that the local commercial banks have a high degree of resilience and stability.

Key words: Banks, Financial Crisis, Performance, Efficiency, financial measures

INTRODUCTION

The International Financial Crisis is considered by many economists to be the worst financial crisis since the depression of the 1930s (Geier,(2008), Nersisyan and Wray(2010). It resulted in the collapse of large financial institutions, the bailout of banks by national governments, and downturns in stock markets around the world such as: Fannie Mae and Freddie Mac and in United States and Northern Rock Bank in U.K (Reinhart & Rogoff, (2009). The crisis played a significant role in the failure of key businesses, declines in consumer wealth estimated in trillions of US dollars, and a downturn in economic

activity leading to the 2008-2012 global recession and contributing to the European sovereign –debt crisis (Williams,2012).

The subject of financial performance and research into its measurement is well advanced within finance and management fields. It can be argued that there are three principal factors to improve Financial performance for financial institutions; the institution size, its asset management, and the Operational efficiency. To date, there have been little published studies to explore the impact of these factors on the efficiency of

the financial performance of commercial banks in the Arab World.

The literature distinguishes two types of efficiency; technical efficiency and allocative efficiency. The technical efficiency refers to the ability of decision-making unit (DMU) to produce as much output as possible at a given input level, or to produce a given level of output employing the least possible input levels, whereas allocative efficiency refer to cost minimizing mix of inputs, as a given relative input prices. (Onour And Abadalla, 2011).

Berger and Bouwman (2010) examined the effect of pre-crisis bank capital ratios on banks' ability to survive financial crises, market shares, and profitability during the crises. Their finding shows that capital helps banks of all sizes during banking crises; higher capital helped banks to increase their probability of survival, market shares, and profitability. Others studied the real effects of deterioration in bank health or competition during the financial crisis on bank performance; Almeida, Campello, Laranjeira, and Weisbenner (2009) and Duchin, Ozbas and Sensoy (2010) studied the effect of the recent financial crisis on corporate investment. Results show that the corporate investment declines significantly following the onset of the crisis. Tarawneh (2006) compared of financial performance in the Banking Sector in Oman, the impact of a total of five Omani commercial banks with more than 260 branches were financially analyzed, and simple regression was used to estimate the impact of asset management, operational efficiency, and bank size on the financial performance of these banks. The study found that the bank with higher total capital, deposits, credits, or total assets does not always mean that has better profitability performance.

Generally, the financial performance of banks and other financial institutions has been measured using a combination of financial ratios analysis, benchmarking, measuring performance against budget or a mix of these methodologies (Avkiran, 1995).

Although, there is huge number of published research in banking efficiency, little effort has been conducted to study the impact of financial crises on banking performance. In view of this the main purpose of this paper is to illustrate, using empirical evidence, the extent to which the current international financial crisis had an impact on the financial performance of the banks in Oman. In other words, the main question addressed in this paper is what happened to the efficiency of bank's performance in Oman. The data included in this paper covers all the banks operating in Oman which provided the needed data for the analysis, a number of financial measures are compared for each bank in pre and post financial crisis.

The following sections of this paper is organized as follows; section (II) provides a brief review of the impact of international financial crisis on the Efficiency of bank's performance in the world; while section (III) gives a brief account of Bank industry in Oman. Section (IV) presents the methodology and describes the data used, followed by section (V) that deals with the empirical findings. Finally, in section (VI) a summary and some conclusions and policy recommendations are offered.

THE LITERATURE REVIEW

The measurement of bank performance particularly commercial banks is well researched and has received increased attention over the past years (Seiford and Zhu, 1999). There have been a large number of empirical studies on commercial bank performance around the

world (see Yeh, 1996; Webb, 2003;Lacewell, 2003; Halkos and Salamouris, 2004; Tarawneh, 2006).

In the Gulf, Samad (2004) investigated the performance of seven locally incorporated commercial banks during the period 1994-2001. Financial ratios were used to evaluate the credit quality, profitability, and liquidity performances. The performance of the seven commercial banks was compared with the banking industry in Bahrain which was considered a benchmark. The article applied a Student's *t*-test to measure the statistical significance for the measures of performance. The results revealed that commercial banks in Bahrain were relatively less profitable, less liquid and were exposed to higher credit risk than the banking industry, in which wholesale banks are the main component.

Another study that provides a brief but interesting account of bank performance was conducted by (Ncube, 2009) who used the stochastic frontier model to analyze the cost and profit efficiency of four large and four small South African banks. The results of the study showed that South African banks have significantly improved their cost efficiencies between 2000 and 2005 with the most cost efficient banks also being most profit efficient. However, efficiency gains on profitability over the same time period were found not to be significant.

Bungsche (2011) indicates that the impact of the financial crisis was strongest where it originated, in the USA, where the positive employment trend observed in the sector in the years before the crisis has been clearly reversed. In Europe, it had a strong impact on the European financial centre, the UK, which had a large, lightly regulated investment banking sector, and in Hungary, due to excessive public and private borrowing. In the rest of the

European countries, the impact of the crisis has only been moderate, and only certain banking groups have been significantly affected, particularly in Germany and the Netherlands, but also in Estonia, France and Sweden.

Soriano (2011) shows that Data for 2009 show that the impact of the crisis was more intense in the banking systems of the EU and the USA than in Japan (and Brazil and China, as is shown later), reflecting the fact that the financial crisis has been heavily concentrated in the former. In both areas, total assets or liabilities have been reduced, employment has declined and the number of institutions has decreased further. On the contrary, employment in the banking sector in Japan (and Brazil and China) seems to have increased during the crisis.

Few research studies have explored the impacts of the current financial crisis on of bank performance. Xiao (2009) used qualitative and quantitative tools to examine the performance of French banks during 2006–2008. Finding shows that French banks were not immune but proved relatively elastic to the global financial crisis. (Beltratti and Stulz,(2009) studied the bank stock return cross the world during the period from the beginning of July 2007 to the end of December 2008. They find that large banks with more deposit financing at the end of 2006 exhibited significantly higher returns during the crisis. (Cornett, McNutt and Tehranian, 2010) analyzed the internal corporate governance mechanisms and the performance of US banks before and during the financial crisis. They find that largest banks faced the largest losses during the crisis. (Dietrich and Wanzenried, 2011) examined how bank-specific characteristics, industry-specific and macroeconomic factors affect the profitability of Swiss commercial banks

over the period from 1999 to 2009. Their results provide some evidence that the financial crisis did have a significant impact on banks profitability.

Financial institutions in developing countries are beginning to suffer from a lack of short term liquidity, as retail deposits exit and non-deposit funding dries up. As the effects of the global recession spreads, the impact will be felt on financial sector asset quality, leading to the need for recapitalization of financial institutions. Lack of liquidity will also reveal underlying weaknesses in regulatory frameworks and in the management of financial institutions, requiring regulatory reforms and capacity building. Tight credit markets in developing countries are rapidly affecting the real sector, especially sectors reliant on trade finance and working capital. (world Bank,2008).

Ashamu and Abiola(2012) analysed the impact of global financial crisis on banking sector in Nigeria, the study revealed that the financial crisis has caused depression of the Nigerian capital market and drop in the quality of part of the credit extended by banks for trading in the capital market, exchange rate risk tightening of liquidity, greater loan-loss provisioning, slower growth rate of banks' balance sheet in response to the crisis and higher provisioning leading to lower profitability among others. *Along the same line* Kitoyta(2009) revealed that: The crisis also had little impact on the Sub-Saharan African financial systems because the financial sector in Africa remains shallow, uncompetitive and weakly integrated into the global markets. Despite the fact that money, currencies, and capital markets had the significant pressures by the crisis, they have continued to function normally, and financial institutions in most countries have been stable without emergency support from monetary authorities.

Ree (2011) examines the impact of the global financial crisis that began in late 2007 on banking sectors of Asian low-income countries, by exploring bank-level data provided by Bankscope. The paper finds that despite relatively low financial integration, the impact of the crisis on LIC banks, particularly the largest ones, were not insignificant. Impacts were most palpable through a loan-to-crossborder funding nexus.

Khamis (2010) states that:" GCC banks were less affected by the crisis than their counterparts in advanced economies, in spite of a series of shocks, there has been no systemic breakdown and the impact on bank profitability has been moderate so far."

Sangeetha (2012) studied effect of global financial crisis on the Omani commercial banks, the analysis reveals that the performance of the banks are influenced by the orientation and strategy of the management. Some banks are strong in their marketing potential while some are effective in taking care of shareholders' interest by enhancing income and operating profit. However, some banks show their dominance in efficiency or effective cost management. The effect of global financial crisis on the Omani commercial banks has not been significant except for National Bank of Oman (NBO). The study reveals that the local commercial banks show a high degree of resilience and stability.

Anouze (2007) examined the efficiency of banks' performance in Gulf Region before, during and after s Financial and Political crisis, the overall result shows that Conventional banks perform well during political crisis, whereas, Islamic banks perform better during the financial crisis. However, this differences is not statistical significant, which means that GCC commercial banks

can be equally competitive when it comes to technical efficiency. Also, there is no statistically significant relationship between bank geographical location and it is efficiency score. Moreover, the results confirm that large and small size GCC commercial banks are more efficient than the medium size. Out of the 24 environmental factors included in the study to investigate the relationship between environmental factors (internal and external) and bank performance; only 15 factors are considered to be important in predicating the fully efficient banks. Along the same line Khamis (2010) shows that: "GCC banks were less affected by the crisis than their counterparts in advanced economies, in spite of a series of shocks, there has been no systemic breakdown and the impact on bank profitability has been moderate so far."

Shafique, Faheem and Abdullah. (2008) test the impact of global financial crises on the Islamic banking system, the result show Islamic banking system has also affected by the global financial crisis but performance of Islamic banks during global financial crisis is better than conventional banks. Risk in Islamic banks is less than conventional bank because of its interest free nature.

Al-Nessor (2008) reached the impact of financial crisis will vary from one country to another, depending on the complexity of its economy with the global economy and that the Gulf states will be most affected, and the reaction of Arab financial markets has been exaggerated as a result of investors said they have watched the erosion of stock prices in world markets and the withdrawal of foreign investors from the Arab markets. The impact of the U.S. mortgage crisis on Arab banks is limited, and resulted in government intervention to provide liquidity to banks to derive a liquidity crisis. The researcher believes that there will be

a strong influence in the current period of infrastructure projects in the real estate sector. The researcher recommends that in the next phase to focus on how Arab economies deal with this crisis, and to avoid more shocks. In the same context Fayez, Alnajjar and Jadara (2009) study the impact of financial crisis on the financial sector in Jordan, *the study adopted a comprehensive survey of companies listed* The Amman stock exchange, in order to identify the most important effect of the global financial crisis on the financial sector in general, and its constituent sectors particularly in Jordan, For the movement of the index for each sectors of the financial sectors, the study found the Jordan like other countries in the world has been affected by global financial crisis, but to lesser extent due for the lack of modern financial instruments in the financial market such as derivatives.

From the above discussion of the international experience it is evident that the impact of international financial crisis on the efficiency of banks' performance is mixed. While some studies indicate that banks' performance has been affected by global financial crisis (i.e. negative impacts), there are studies which show that the banks' performance was not immune but proved relatively elastic to the global financial crisis. Yet some other studies found that no difference in Bank's financial performance before and after crisis.

The Banking Industry in Oman

(Mazhar M. Islam, 2003) mentioned in his paper indicates that Oman is a free market economy, with low taxation levels, fairly liberal investment laws and no control on capital movements and is a member of the Arab Gulf Co-operation Council (GCC). The economy is managed through a series of plans emphasizing agriculture and industrial development. However, Oman remains

heavily dependent on its oil revenues. Oil revenues also drive economic activity in the non-oil sectors. The government recognizes the need to diversify the economy away from oil as rapidly as possible and its vision 2020 plan aims to reduce the oil sector's contribution to less than 20% over the next two decades.

Omani banking industry is currently attractive as more and more foreign banks are getting licenses to operate in the Sultanate such as Bank of Beirut, Qatar National Bank, and Gulf Merchant Group. In addition, a new local bank, Bank Sohar launched its operations in 2007. Omani Banks have been in full compliance with Basel II capital adequacy minimum requirement since January 2007. To further enhance the capital base the Central Bank of Oman requires a minimum capital adequacy ratio of 10% which is above the one mandated by Basel II. All the banks under our coverage are adequately capitalized with capital adequacy ratios that are well above the minimum 10% required by the CBO (*Global Research, 2007*).

The table below presents the banking sector in Oman 2011.

Insert table 1

METHODOLOGY AND DATA

The main objective of this paper is to examine the impact of current financial crisis on the financial performance of the commercial banks in Oman. The study has been done among the seven leading local commercial banks which include Bank Muscat (BM), National Bank of Oman (NBO), Bank Dhofar (BD), Oman International Bank (OIB), Oman Arab Bank (OAB), Ahli bank (AB), and Bank Sohar (BS). Bank Sohar (BS) is a new bank and started its operations in 2007 so it will not be considered in our Sample because the bank had not have at least three years post the international crisis

date. The research design used in the paper is a "before-and-after" design (also known as the pre-test/post-test design).

To achieve the aforementioned research objectives, the data for this study will be gathered from published financial statements of the banks, their web-sites, Central Bank of Oman reports and other published reports.

The annual data for all Omani commercial banks during (2005-2011) are used for calculating key financial ratios in order to assess the performance of the banks. In addition, another source of data was through reference to the library and the review of different articles, papers, and relevant previous studies.

To examine whether the difference in performance of the banks in 2005-2007 is statistically different from that of 2009-2011 a student's *t*-test is employed to test the hypothesis that the means of the two periods are the same on the seven variables as detailed in this section.

The following hypothesis has been tested:

H0: $\mu_1 = \mu_2$, where μ_1 is the mean for 2005-2007 and μ_2 is the mean for 2009-2011.

Inferences about the hypothesis are made by looking at test statistics and critical values associated with the mean. If $P\text{-value} \leq \alpha$, reject the null hypothesis. If $P\text{-value} > \alpha$, do not reject the null hypothesis. The results of the test are to be handled with caution as there are very few observations and the statistical tool might not be very effective when the sample is small. The population for this research comprise of all the commercial banks operating in Oman between 2005 and 2011. The researchers are used the following measures:

A. Profitability Performance

The most common measure of bank performance is profitability.

Profitability is measured using the following criteria:

Return on Assets (ROA) = net profit/total assets shows the ability of management to acquire deposits at a reasonable cost and invest them in profitable investments (Ahmed, 2009). This ratio indicates how much net income is generated per £ of assets. The higher the ROA, the more the profitable the bank.

Return on Equity (ROE) = net profit/ total equity. ROE is the most important indicator of a bank's profitability and growth potential. It is the rate of return to shareholders or the percentage return on each £ of equity invested in the bank.

Cost to Income Ratio (C/I) = total cost /total income measures the income generated per O.R cost. That is how expensive it is for the bank to produce a unit of output. The lower the C/I ratio, the better the performance of the bank.

B. Liquidity performance

Liquidity indicates the ability of the bank to meet its financial obligations in a timely and effective manner. Samad (2004:36) states that "*liquidity is the life and blood of a commercial bank*". Financial liabilities are attracted through retail and wholesale distribution channels. Retail generated funding is less interest elastic and more reliable than deposits attracted from wholesale distribution channels (Thygeson, 1995). The following ratios are used to measure liquidity:

Liquid assets to deposit-borrowing ratio (LADST) = liquid asset/customer deposit and short term borrowed funds. This ratio indicates the percentage of short term obligations that could be

met with the bank's liquid assets in the case of sudden withdrawals.

Net Loans to total asset ratio (NLTA) = Net loans/total assets NLTA measures the percentage of assets that is tied up in loans. The higher the ratio, the less liquid the bank is.

Net loans to deposit and borrowing (NLDST) = Net loans/total deposits and short term borrowings. This ratio indicates the percentage of the total deposits locked into non-liquid assets. A high figure denotes lower liquidity.

C. Asset Credit Quality (Credit Performance)

While it is expected that banks would bear some bad loans and losses in their lending activities, one of the key objectives of the bank is to minimize such losses (Casu *et al*, 2006). Credit performance evaluates the risks associated with the bank's asset portfolio i.e. the quality of loans issued by the bank. Several ratios can be used for measuring credit quality however, not all information on the loans is always available. Non-performing loans is not available for all banks therefore this paper use the following ratio:

Loan loss reserve to gross loans (LRGL) = Loan loss reserve/gross loans: This ratio indicates the proportion of the total portfolio that has been set aside but not charged off. It is a reserve for losses expressed as a percentage of total loans.

(V) Empirical Findings:

Having noted the methodological preliminaries in the previous section we are now in a position to report and discuss our empirical results. Table (2) presents

our results where for each financial indicator we report the mean and before and after financial crisis, the difference between the two periods and the test-statistic.

Insert table 2

A. Profitability Indicators:

Three indicators are used to measure the efficiency of Omani banks' performance: return on Assets (usually abbreviated as ROA), return on equity (ROE) and cost to income ratio (C/I). As noted earlier ROA refers to earnings before interest and tax (with a famous abbreviation of EBIT) divided by assets; ROE refers to EBIT divided by equity and ROE refers to EBIT divided by cost to income ratio (C/I). The above profitability ratios were calculated using profit before interest, taxes and extraordinary items, to reflect the operating income of the bank, instead of using net income. The reason for such accounting practice is the fact that tax figures reported on the enterprise's annual reports may include tax credits or carry forwards that do not relate to the current year's performance (e.g. selling some assets prior to and then reporting capital gains in income statements that would reflect an increase in net income but in an artificial way). With regard to profitability, ROA shows banks performed better in the period 2005-2007 compared to 2009-2011. As shown in Table 2, the mean for ROA was 2.7 for 2005-2007 compared to the 2.9 for 2009-2011. ROE shows different trend the mean for 2005-2007 being 23.4 compared to 23.2 for 2009-2011.

The C/I ratio shows a similar trend, To ROA the difference in the C/I means, the mean for C/I was 40.5 for 2005-2007 compared to the 38.7 for 2009-2011.

On the basis of the above understanding the results show that the

profitability ratios for ROA and C/I to have increased following global crisis; the increase, however, is statistically insignificant. While the result for ROE show insignificant decreased following international financial crisis.

B. Liquidity performance:

Three indicators are used to assess liquidity performance: liquid assets to deposit-borrowing ratio (LADST) liquid asset/customer deposit and short term borrowed funds, Net Loans to total asset ratio (NLTA) = Net loans/total assets NLTA measures the percentage of assets that is tied up in loans and Net loans to deposit and borrowing (NLDST) = Net loans/total deposits and short term borrowings. This ratio indicates the percentage of the total deposits locked into non-liquid assets. Note that EBIT is used to refer to income for the justifications mentioned in the profitability measures.

The result from table 2 shows that there is no significant difference between the liquidity performance of the banks in the two periods in terms of LADST and NLDST. The mean for the NLDST was 1.7 for 2005-2007 and 1.6 for 2009-2011. As for NLDST the mean shows a similar trend with the mean for 2005-2007 being 63.2 while the one for 2009-2011 is 65.3.. This indicates that banks have been more liquid in 2005-2007 compared to 2009-2011 in terms of LADST and NLDST. As for NLDST the mean shows a different trend, the mean for 2005-2007 was 96.0 compared to 93.1.3 for 2009-2011.

The results show that there is statistically insignificant improvement in LADST and NLDST of the liquidity performance ratio and insignificant decreased in NLDST.

C. Asset Credit Quality (Credit Performance):

Only one indicator, reflecting credit performance is used to assess credit performance and is measure by: Loan loss reserve/gross loans: this ratio indicates the proportion of the total portfolio that has been set aside but not charged off. It is a reserve for losses expressed as a percentage of total loans. With respect to credit quality the mean for loan reserve to gross loan ratio is 9.7 for 2005-2007 and 8.0 for 2009-2011 indicating that the loan portfolio deteriorated in 2008-2009. However, the difference is not statistically significant.

The result shows that this indicator increased following global financial crisis but the increased is statistically insignificant.

From the results of the student *t*-test, no significant differences were observed between the overall performances of the commercial banks in Oman during the two periods in terms of profitability, liquidity and credit quality. the overall results are consistent with recent literature (Sangeetha (2012).

CONCLUSIONS AND POLICY RECOMMENDATIONS

The purpose of this research study is to investigate the impacts of the global financial crisis on the efficiency of Omani banks' performance. The study has been done among the seven leading local commercial banks. For each Bank seven financial performance indicators are calculated as average of three years before, and three years after, global financial crisis. The seven indicators are grouped into three standard broad categories: profitability (3 indicators); Liquidity (3 indicators) and Asset Credit Quality (one indicator). A simple *t*-test of the difference between means is conducted.

Overall, the results show that the effect of international financial crisis on the Omani banks' has not been significant. Instead; the analysis reveals there is a statistically insignificant improvement in the efficiency of Omani banks' performance following international financial crisis. Furthermore; the paper shows that the local commercial banks have a high degree of resilience and stability.

The results of this paper can be used to support policy related recommendations along the following lines:

help to managers by providing directions for more improvement

it might be necessary for a bank management to take all the required decisions to enhance the financial positions of the bank.

The financial system needs to develop further in order to provide proper incentives to banks to achieve more efficient

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Table – 1
Licensed Banks in Oman

Type	Date of Establishment	Branch Network
Local Banks:		
1 National Bank of Oman	1973	50
2 Oman Arab Bank	1973	39
3 Oman International Bank	1975	82
4 Bank Muscat	1981	97
5 Bank Dhofar	1990	48
6 Bank Sohar	2006	1
7- Aahli Bank	1997	7
Foreign Banks		
8 HSBC Bank Middle East	1 948	6
9 Standard Chartered Bank	1968	1
10 Habib Bank Ltd.	1972	9
11 Bank Melli Iran	1974	1
12 National Bank of Abu Dhabi	1976	2
13 Bank Saderat Iran	1976	1
14 Bank of Baroda	1976	3
15 State Bank of India	2004	1
16 Bank of Beirut	2006	1
Specialized Banks		
17 Oman Housing Bank	1977	9
18 Oman Development Bank	1977	10

Source: Central Bank of Oman; (2008).

Table - 2
Financial Performance Indictors Following Privatization

Financial Performance Indicator	Before		After		t-value	Comments
	Mean	SD	Mean	SD		
Profitability (Ratio):						
Return on Assets(ROS)	2.7	0.8	2.9	.24	-1.2	Insignificant
Return Equity (ROE)	23.4	2.5	23.2	0.8	0.09	Insignificant
Cost to Income Ratio (C/I))	40.5	1.1	38.7	1.36	1.7	Insignificant
Liquidity performance:						
Liquid assets to deposit-borrowing ratio (LADST)	1.7	.10	1.6	.03	.68	Insignificant
Net Loans to total asset ratio (NLTA)	63.2	1.1	65.3	1.8	-1.7	Insignificant
Net loans to deposit and borrowing (NLDST)	96.0	.95	93.1	.74	3.7	
Asset Credit Quality						
(Credit Performance)						Insignificant
Loan loss reserve to gross loans (LRGL)	9.7	.87	8.0	.12	3.2	

Rural Customers Attitude towards Insurance Services

Mrs. Mallika

Phd.scholar

Urumu Dhanalakshmi college,
Trichy, India

Dr. Christy Selvarani

Associate Professor

Urumu Dhanalakshmi college,
Trichy, India

Abstract

This paper describes Customers attitudes towards the various insurance in Chennai, tamil Nadu , India. The attitudes, most often negative, are mirrored through low patronage of insurance services. It discusses such social-cultural factors that account for these attitudes and what role marketing strategies can play to change such negative tide. Drawing from theoretical foundation, an empirical survey was conducted among 250 customers of the life insurance—to gauge their awareness level and general attitudes towards insurance companies and their operations. The findings present different demographical factors and their attitudes towards insurance companies and their services.

Key words: insurance, attitude, demography, marketing, strategies

INTRODUCTION

Rural market is not an extension of the urban market. Socio cultural factors have a bearing on purchase decisions in rural areas. The rural people are brand conscious and value brand for money. The Life Insurance Corporation of India identified the need of rural life insurance and the very first objectives of the LIC of India is to spread life insurance much more widely and in particular to the rural areas and to the socially and economically backward classes with a view to reaching all insurable persons in the country and providing them adequate financial cover against death at a reasonable cost. Life insurance is a social security tool. This is more pronounced in rural areas that promote and sustain the life links of the economy. The various programs of the government promoting agriculture and tiny industries, the scientific agricultural practices, the agrarian re-forms, the empowerment of village panchayats and such other activities have created reasonable disposable incomes in the hands of the rural folk. At the same time

we find the rural economy dependent on vagaries of monsoons. The existence of Below Poverty Line(BPL) families, the stark illiteracy, and the low levels of awareness are the major stumbling blocks to protect themselves against risks. The life insurance penetration in rural areas as percentage of Gross Domestic Product (GDP) is around 2.8% as at 2005 and again the so called penetration is catering to the needs of rural rich Life Insurance in India by H.Sadhak.

The distribution costs, product designing to the needs of the rural people, the viability of opening offices in rural areas are preventing major life insurance companies to opt out of this market. In this is an effort is made to study the rural life insurance market and try to identify the major factors inhibiting the insurance companies leading to ignore this market. The techniques that are being adopted by the top 5 insurance companies in the rural market, the limitations of their techniques and specific recommendations of marketing techniques for wide spread insurance coverage etc are discussed. The

study is based on the analysis of the data collected from at least 500 individual policy holders having insurance policies in one or more number of insurance companies and also from two hundred agents. An attempt is made to find the lacuna in the existing marketing techniques adopted by different life insurance companies and suggestions based on the data collected and analysis are provided to develop tailor made techniques suiting the rural poor. For understanding the rural insurance market and the marketing techniques, a brief understanding of the life insurance and its concepts are also felt necessary. LIC has made a steady and firm penetration into rural India. It has registered an annual growth of 18% for policies taken in last three years, which is much higher when compared to 3.86% in small towns and cities.

BACKGROUND TO THE STUDY

An attitude may be defined as a learned disposition to behave in a consistently favourable or unfavourable way with respect to a given object (Schiffman and Kanuk, 2000). Stated differently, it positions people into a frame of mind of liking or disliking things, of moving toward or away from them' (Kolter and Armstrong, 2008: p144). It is acknowledged that people have attitudes toward almost everything - religion, politics, clothes, music, food (Kotler, 2003). In marketing context, it is stated that consumers can develop attitudes to any kind of product or service, or indeed to any aspect of the marketing mix, and these attitudes will affect behaviour (Brassington and Pettitt, 2003). It is argued also that consumers' brand attitudes generally depend on the attributes and benefits of the brand (Chang, 2006). Given this logic of argument, in the context of the present study one could ask, what do customers perceive as benefits from insurance business? And how do they perceive these

benefits? These questions deserve closer attention especially as it has been stated that consumers in the insurance market are poorly informed about insurance goods (Berger 1988 cited in Seong, 2002), and when confronted with the need to do assessment of quality of offerings, particularly when there is perceived risk or lack of personal expertise, consumers rely on heuristics (Joseph et al., 2003). Hence it could be stated that those who do not have the knowledge of insurance services will result into heuristic in the course of their evaluation of the relevant offerings. In closely related view, there is an argument that customers from different cultures may rely on different factors during the process of relationship development with service providers (Suh, et al., 2006). So, given this, cultural factors might as well prompt Customers into exhibiting different behavioural reactions to insurance services and the relevant strategies designed to marketing them. In a similar context, Atmanand (2003) asserts that where people below poverty line are high and per capital income is low, insurance penetration is bound to be low.

LITERATURE REVIEW

In a recent study of quality of life in developing countries with reference to South Africa (Moller, 2004), income and social security (own wages, ability to provide for family, insurance against illness/death and income in old age) have been treated as one of the major indicators of quality of life. This standpoint stresses the significance of insurance to human life. Ironically, insurance services seem not to have been so accepted enthusiastically in developing countries. The abysmal level of insurance culture in developing economies has attracted relative interests among researchers and practitioners alike. Risk has been identified as a central fact of life in the rural areas of less-developed countries (Udry, 1994).

Some of the problems associated with this have been marketing. For example, Omar (2005) assesses consumers' attitudes towards life insurance patronage in Nigeria and found out that there is lack of trust and confidence in the insurance companies. Other major reason for this attitude is lack of knowledge about life insurance product. An instructive opinion suggested by the researcher is the call for a renewed marketing communication strategy that should be based on creating awareness and informing the consumers of the benefits inherent in life insurance so as to reinforce the purchasing decision. The drawback to Omar's study is in the area of its inability to capture attitude to non-life insurance products and limited sampling, which include automobile, home contents, goods in transit, marine and aviation, fidelity guarantee and so on. However, Omar's study raises fundamental marketing questions for insurance practitioners. While highlighting the importance and the need for social health insurance as a powerful method to grant the population access to health services in an equitable way, Carrin (2002) observes that half of the industrialised countries have chosen social health insurance as their health financing system. In contrast, in 1998, the author observes that not one developing country with a gross national product (GNP) per capita below US\$ 761 had a social health insurance scheme. Arodiogbu (2005) addresses the problems of poor health sector financing using the social health insurance (SHI) and identify several factors militating against the scheme. His recommendations, unfortunately fail to address the need for private-public partnership in solving the problem as is the practice in the developed countries. In a related study, Morduch (1994) identifies weak financial institutions in low-income countries as one of the causes of low insurance culture. He explains that they resorted to second-best

arrangement such as borrowing from neighbours and relatives and selling durable assets to cushion the effects of unforeseen tragic circumstances. The demand for life insurance in a country may be affected by the unique culture of the country to the extent that it affects the population's risk aversion (Douglas and Wildavski, 1982). Henderson and Milhouse (1987) argue that an individual's religion can provide an insight into the individual's behaviour; and understanding religion is an important component of understanding a nation's unique culture. Also, Zelizer (1979) notes that religion historically has provided a strong source of cultural opposition to life insurance as many religious people believe that a reliance on life insurance results from a distrust of God's protecting care. Until the nineteenth century, European nations condemned and banned life insurance on religious grounds. Zelizer also states that religious antagonism to life insurance still remains in several Islamic countries. In similar vein, Wasaw and Hill (1986) tested the effect of Islam on life insurance consumption using an international data set. The results of their study indicate that, *ceteris paribus*, consumers in Islamic nations purchase less life insurance than those in non-Islamic nations. This becomes more evident in the fact that there is comparatively very low ratio of Muslims in developed countries with the majority residing in medium to low human development countries. From the thirty-five low human development countries as defined by the Human Development Report (2004), seventeen have a majority Muslim population and a further five have a Muslim population of over percent. Muslims around the world are commonly faced with low-income levels, and lack access to social security systems, healthcare, education, sanitation, and employment opportunities (Patel, 2004). The above assertions have been

corroborated in another related study of insurance penetration in Nigeria, a developing nation where the marketing of an interest-free insurance scheme gained the support and patronage of the Muslim population (Yusuf, 2006). This becomes attractive mainly because the scheme is interest free, hence it is regarded as having religious backing. Insurance is understood by most people to be critical to a well-functioning economy (Pritchett et al., 1996). By providing payment in the event of unexpected losses, insurance introduces security into personal and business situation. It also serves as a basis of credit as no financial institution would lend money for purchase of capital goods. The main themes in the literature of attitude and perception of life insurance policyholders have largely focused on factors predicting these attitude (Skinner and Dubinsky, 1984; Ozdemir and Kruse, 2004), purchase decision-making responsibility (Barron and Staten, 1995), consumers perceived value (Smith, 2006) and satisfaction (Kuhlemeyer and Allen, 1999). For example, in a survey of 1,462 families, Skinner and Dubinsky found out that employment status of the wife and education of the husband discriminate mostly between which family member(s) is responsible for insurance purchasing decision. Other significant variables include wife's educational level, husband's employment status, family income, and husband's occupation. Ozdemir and Kruse (2004) explore the relationship between individual's risk perceptions and their willingness-to-pay for increased safety in a low-probability, high-consequence event. They found out that the perceived severity of tornado risk has the largest effect on willingness-to-pay and presence of children in the house significantly increases the willingness-to-pay.

While reviewing the performance of the insurance industry, Dorfman (1980) observes that even though life insurance

industry engages in product innovation, the market for life insurance appears to have a serious weakness in that not many new improvements have been forthcoming in recent years. Some of the areas of deficiencies include lack of copyright protection for life products, regulatory opposition, consumer and salesmen's attitudes. Kuhlemeyer and Allen (1999) find out that consumer satisfaction with life insurance products is largely accounted for by the trust they repose in the sales agents in contrast to those who purchase direct from the insurance companies. The surveyed population who purchased from sales agents were more satisfied with the insurance industry than those who purchased directly from insurance companies. This apparently justifies the view held earlier by Pritchett *et al.* (1996) that insurance is sold rather than bought.

Customers' Satisfaction

For more than two decades, customer satisfaction has been an intensively discussed subject in the areas of consumer and marketing research (Hennig-Thurau and Klee, 1997). This is not surprising as measuring customers' satisfaction has become an important issue in an effort to promote quality and ensure a more competitive economy (Fornell, 1992). Such notion becomes pertinent because of its direct impact on the primary source of future revenue streams for most companies. Furthermore, it complements the traditional measures of economic performance, providing information not only to firms themselves, but also to shareholders and investors, government regulators, and buyers. The services literature which also covers insurance services recognizes the importance of personal interaction in creating satisfied customers (e.g. Crosby and Stephens 1987; Parasuraman et al., 1985; Solomon et al., 1985). Hence, according to Crosby et al. (1990), the lack of concreteness of many services of which

insurance is one, increases the value of the persons responsible for delivering them. A service-encounter or —moment of truth|| (Normann 1983), occurs whenever the customers interacts directly with any contact person. Frequently, the service salesperson is the primary—if not sole-contact point for the customer both before and after the purchase (—the salesperson is the company||). Under these conditions, the salesperson controls the level of *service quality* delivered. Since general recognition of the marketing principle that keeping customers is more profitable than attracting new customers (Bitran and Mondschein, 1997), many companies have adopted relationship marketing (Fournier et al., 1998). In relationship marketing, managers strive to develop and maintain successful customer relationships (Morgan and Hunt, 1994). Only recently, companies realized that in order to develop such relationships a differentiated approach is needed (Blattberg and Deighton, 1996; Zeithaml, 2000). Instead of treating all customers equally, managers have come to understand that it is more effective to develop customer-specific strategies.

METHODS

Survey exploratory research design method is used to meet our research objectives and simple random sampling technique is used to select a sample of 300 life insurance customers in Chennai, Tamil nadu. Structured questionnaire was used for the study.

Moreover, with Cronbach-Alpha coefficient of 0.75 the seven items attitudinal scale (which is above 0.70) can be considered quite reliable with the sample (Pallant, 2001).

RESULTS

Table 1 Summary of descriptive statistics and tests of hypothesis results of Socio demographic and economic factors on Customers'

attitude towards Insurance.

From the above results we observe respondents' age has a significant effect on Customers' attitude to insurance. Further analysis using LSD reveals that respondents with age 45 years and below have lesser positive attitude towards insurance than those whose age are 46 years and above. In fact respondents with age group between 56 and 65 years have highest positive attitude towards insurance than others; this stems from the fact that members of this group are at the tailed end of active life, and they are more conscious of life after retirement. Even though male respondents' attitude mean score is slightly higher than their female counterpart, gender does not have any statistical significant effect on Customers attitude towards insurance. This is not surprising as Nigerian women also take active economic roles in their families and are conscious of the significance of insurance in their endeavours. Marital status has a significant influence on Customers' attitude towards insurance. With mean attitude score of 31 Widow/Separated have significantly greater positive attitude to insurance than others. Furthermore, no significant difference is observed between married and single even though as expected married respondents have higher mean attitude score, whereas both of them have significantly higher attitude than Divorced/Separated. This can be explained by the difficult and precarious conditions facing the divorced particularly in Nigeria and Africa in general. Educational status of Customers has significant influence on their attitude towards insurance. Educated people have more positive attitude to insurance than less educated ones. In fact respondents with higher education outperformed others even though no statistical significant difference was observed with vocational education. Employees working status has

a significance effect on Customers attitude towards insurance. Retired and Employed Customers with means attitude scores of 28.50 and 28.14 respectively outperformed their competitors. No significant difference was observed between retired, employed and Self-employed respondents. On the other hand, self-employed people have significantly higher attitude towards insurance than unemployed, student and part time workers. This result is quite similar to findings in most developed world. Professional inclination of respondents' has significant influence on Customers attitude towards insurance. With mean attitude score of 34 out maximum of 35 manufacturing sector markedly outperformed other profession. Moreover, the LSD results show that there is no significant attitudinal different with the legal sector.

Following closely are legal sector and public sector with mean attitude scores of 29.52 and 28 respectively. On the other hand legal sector is significantly higher than only other profession. All other remaining paired professions are not statistically different. Thus, the significance is mostly coming from manufacturing sector.

As expected household income of respondents have significant influence on Customers attitude to insurance. Low household incomes have lesser positive attitude to insurance than high household income groups. Mean attitude scores of middle household income is higher than high household income even though the difference is not statistically significant from LSD test of ANOVA. This can be explained partially by the fact that middle income groups are more vulnerable than wealthy household in Nigeria. In fact, wealthy household relatively feel secured usually in Nigerian economic environment. On the other hand, low household income groups are less empowered and usually insurance

is considered beyond their reach.

Mortgage property ownership has significant effect on respondents' attitude to insurance. Without any doubt Customers landlords have higher attitude towards insurance than tenants. Finally, respondents owning insurance policies have a significant higher positive attitude towards insurance than those not owning any insurance policy.

CONCLUSION AND IMPLICATIONS

From the above, it can reasonably be concluded from the analysis that demographical factors play considerable role of varying degrees on attitudes of Nigerian to insurance services. Specifically, age, marital status, educational status, profession, household income—all have significant impact of varying degrees on attitudes towards insurance. Only gender, surprisingly though, proves not to have significant impact. The findings of this study suggest some major implications for marketing of insurances services in Nigerian businesses environment. Given that attitude is strongly linked to behaviour, marketers of insurance services targeting Customers are confronted with the challenge of encouraging people to embrace insurance institution and its associated benefits. Based on the findings, this paper confirms negative attitudes of Customers to insurance services further. But apart from this broad finding in respect of the negative attitudes to this line of business, this study suggests some specific findings based on different demographical factors of the respondents. The findings serve as inputs to marketers of insurance services on how they formulate and implement relevant marketing strategies towards addressing the nonchalant attitude of Customers to insurance. For instance, specific marketing strategies are required to encourage the young generation below

46 year of age, the divorced/separated, and the less-educated to embrace and appreciate the role of insurance. Since, the basic issue associated with this lack of interest rests mainly in their lack of appreciation of the roles of benefits of insurance services; it is recommended that significant marketing communication activities be targeted more at this set of people highlighted. This will help to kindle their interest in the business and brings the insurance institution to the highly exalted position it belongs in their perception.

Overall, the peculiar feature of most financial transactions in the developing world has been weak contract certainty which in turn, erodes the trust of the insuring public. This is where the regulatory authority wades in to strengthen regulation and supervision that would further boost the public confidence and trust in the insurance industry. In the case of Nigeria specifically, the present government's cardinal programme of strict adherence to the rule of law should be extended to the insurance industry where impunity seems to be holding sway at the moment. It is when the public realizes the availability of seeking redress in case of insurance disputes that they can repose confidence and positive attitude to the industry. Nevertheless, the efficacy of marketing-orientation rather than selling by insurers would go a long way in addressing the attitudinal problem. Hence, further studies on the efficacy of the present marketing strategies being adopted by insurers to exploit the opportunities offered by these findings about demographic factors are highly recommended.

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Table - 1
Summary of descriptive statistics and tests of hypothesis results of Socio demographic and economic factors on Customers' attitude towards Insurance

Age	Mean	SD	F value	Education	Mean	SD	F value
18-25	25.68	3.45	9.95	High school	27.5	3.8	11.36
26-35	26.16	4.65		University	23.5	3.56	
36-45	26	4.58		Professional	28	4.35	
above 45	28.97	4.28		Vocational	26.5	3.95	
Total	26.70	4.24		Total	26.38	3.92	
Marital Status	Mean	SD	F value	Income Level	Mean	SD	F value
Married	27.26	4.38	8.85	< 10000	23.85	4.5	9.24
Single	26.71	4.55		10001-20000	25.49	4.32	
				20001-30000	30.64	2.85	
Total				30000 & above	29.75	4.12	
	26.99	4.47		Total	27.43	3.95	
Profession	Mean	SD	F value	Policy Ownership	No. of samples	%	
Govt. Job	26.16	4.02	9.95	Yes	279	93	
Private	27.02	3.87		No	21	7	
Business	27.33	4.95		Total	300	100	
House wife	26.13	3.85					
Others	29.52	2.09					
Total	27.232	3.756					
Gender	Mean	SD	F value				
Male	47.6	4.6	5.6				
Female	37.6	4.16					
Total	42.6	4.38					

Ignoring the Neglected Population for Inclusive Growth: A Study of Women in Slums in Jammu City

Priyanka Bhau
Ph.D Scholar
Department of Economics
University of Jammu

Abstract

Inclusive growth is a growth which ensures opportunities for all sections of the population regardless of their gender, sex, disability, religion. Women need a special attention with respect to inclusive growth. In India, women make up to 48.5 percent of country's population. Therefore, women's participation is prerequisite for inclusive growth. Regardless to this the social attitude and practices prevalent in the society are highly biased against women. As urbanization has been increasing with fast pace the urban population in India (93,053,972) is one of the largest in the world. Addition to it, there is a growth in feminization of urban poverty as inclination of women in the global migration trend is increasing. UN-Habitat considered women as one of the most vulnerable group among the urban poor. While 65.46 percent of adult women are literates urban slum women still deprived of education. Low literacy level in urban slums restricts slum women under the category of casual labourer or domestic servants. During pregnancy they are force to do dual task i.e., paid and unpaid work. Moreover, due to their job pattern they cannot avail maternity leave. Women are neglected on various grounds which confirm that in the modern India, the woman is still a second grade citizen especially in urban slums. This paper deals with the various indicators like educational level, work during pregnancy and treatment during pregnancy problems to throw light on the negligence attitude towards women. A field survey has been conducted on women of 250 households in 10 slums of Jammu city. Also, a detailed comparison between slums has been made.

Key words: *Inclusive growth, women, migration, slums, negligence.*

INTRODUCTION

As quoted by Laura Townsend "Inclusive development means making sure everyone is included in development regardless of their gender, sex, disability, religion". Inclusive growth should be broad based growth, shared growth and pro-poor growth so that resources can be equally allocated that increases the involvement of people into the growth process thereby reducing the poverty rate. But harsh reality is that, slum population is considered as the most disadvantage section of society. Educationally and economically deprived slum dwellers trap themselves into the vicious cycle of poverty. According to census 2011, the slum population is

93,053,972. NSSO defined slums as a compact settlements with a collection of poorly built tenements, mostly of temporary nature, crowded together usually with inadequate sanitary and drinking water facilities in unhygienic condition. NSSO definition excludes human resource indicators like education, maternal care and nutrition level as slum dwellers are mostly neglected population in terms of human resource development. According to UN-HABITAT (2010), women are one of the most vulnerable groups among the urban poor. This paper provides insights into the education level, work load during pregnancy and treatment sought for pregnancy problems experienced by women of slums in Jammu city of Jammu

and Kashmir. The findings throw light on the bitter truth that economic growth alone does not promote gender equality. Women need a special attention with respect to inclusive growth. In India, women make up 48.5 percent of country's population and 48.1 to total slum population. Therefore, if excluded from mainstream development, India will never become capable of achieving the target of 12th five year plan, "Faster, more Inclusive and Sustainable Growth".

The state of Jammu and Kashmir (J&K) is in its developing phase which attracts a large chunk of people to migrate from their respective states to J&K state to avail the job opportunities emerging in unorganized sector. With the fast trend of urbanization and concentration of population in big towns, slums have come up in Jammu and Kashmir. As per the Report of the Committee on Slum Statistics / Census 2001, slum population of Jammu and Kashmir is 3, 95,696 which contribute 15.72 percent in urban population of the State. Also, it adds 0.53 percent in total slum population of India. It has increased to 4, 94,180 in 2011. Moreover, it was projected that slum population of Jammu and Kashmir will increased at fast pace and will be 5,53,771 in 2017. In J&K, percentage contribution of female population in total population is 48.2 percent (census 2011).

RESEARCH METHODOLOGY

This is descriptive type of research and based on primary data. The first phase of the work started with the selection of the slums. There are 11 notified slums in 71 wards under Jammu Municipal Corporation. 10 slums namely Dhounthly, Bawe Basti, Kabir Colony, Rajiv Colony Pulpar, Opposite Hotel Ravera, Gole Panjpeer, Qasim Nagar Bahu Fort, Kalika Colony, Muthi Bridge and Rajiv Nagar are randomly selected. After the selection of

the slums, total 250 households are randomly selected out of selected slums. 25 households are selected from each slum on the basis of random sampling technique of research. The study is conducted through the survey method. Data is gathered through a comprehensive interview schedule that is served to the respondents. The primary data is collected by personal meetings, observations and discussion with respondents. A comprehensive questionnaire is also created carrying binary and descriptive types of questions. The sample for the study consisted of women from 250 households of 10 different slum areas of Jammu city. One woman from each 250 households has been interviewed. A total 299 women are noticed in 250 households of 10 slums in Jammu city of J&K. The study was conducted to know about their educational level, work load during pregnancy and treatment sought for problems faced by respondents during pregnancy.

(I) EDUCATIONAL LEVEL OF SLUM WOMEN

Things like education had been put aside until the last few years where there has been a large stress on education as well as increasing the empowerment of women and the economically weaker sections of society. By placing stress on these issues they are expected to contribute to the alleviation of poverty in India. With more than half of Indian women illiterate and about 40 million primary school – age children not in school (mostly girls and those from the poorest and socially – excluded households) ; and only about one – third of an age group completed the constitutionally prescribed eight years of education (Poverty in India). Undoubtedly, by educating the women, health and education resources of women living in these communities can be improved. Development theory in recent

years has taken note of the importance of education as an index of development of a nation, and with its myriad positive effects on the functioning of a society, the outreach of education to every stratum of society is a subject of great concern. Various economists and researchers identified the key challenges involved with low education level of slum women residing in city. Khasnabis and Chatterjee (2007) assign a significant role to mother's education on child's education. According to them, there are various issues regarding children's education in slum areas. Their study conducted on 9969 children from 104 schools spread over 11 wards of Kolkata reveals that literacy among the mothers is crucial for attaining a child to elementary education. More educated the mother is, higher is the value for formal education of children. According to Helen Ware (1984), there is a negative relationship between the extent of maternal education and level of child mortality, although the amount of education required to produce a significant reduction in mortality varies from culture to culture. As discussed above there are various positive outcomes if women are educated. But, as a matter of fact, slum women are neglected in this sector that further degrades their status. It is in this context that we examined the educational level of women in 10 slums in the city of Jammu. This survey showed the educational level of women above 18 years.

Table: 1 depicts the educational level of women in 10 slums of Jammu city. It is clear from the table that in total 80.3 percent of women are illiterate. This shows the educational deprivation of women in slums. Moreover, those attained education are restricted to educational level of I – V class and VI – X class. Hardly 9.7 percent and 10 percent attained the educational level of I – V class and VI – X class respectively. Poverty and gender

discrimination were the reasons behind their education backwardness.

In order to make comparison between different slums, a detailed finding of different slums has been drawn. According to it, Dhounthly slum has the highest number of illiterate women (88.8 percent) out of 36 women. And 71 percent of illiterate women are reported in Kabir colony which is lowest among the slums. It has been observed that Rajiv colony (14.8 percent) and Qasim Nagar (25 percent) reported the highest number of women among 10 slums who have hardly attained the educational level of I – V class and VI – X class respectively.

To conclude, women's empowerment cannot take place unless women are educated. According to Brigham Young "You educate a man; you educate a man. You educate a woman; you educate a generation". Although the various positive steps have been taken to literate the women, but the harsh reality is that there is a wide gap between announcement of the schemes and implementation of it as 80.3 percent of women are observed as illiterates.

(II) WORK LOAD DURING PREGNANCY

Lanjouw (2007) considers casual, unskilled labor and daily wage employment to be among the worst paid jobs available to workers in much of the developing world. As Lanjouw put it, 'casual labor, daily wage employment, is seen in many places as an occupation of last resort. Remuneration is typically low, the work is physically demanding, employment is prone to significant seasonal variation and it can be associated with a lack of social status'. In Indian context, less educated women have the highest probability of working as casual labor. Illiteracy force women to join low paid jobs, that don't ensure maternity leave. So women have to

experience the disadvantage of this as they have to face dual work during the crucial period of pregnancy. There is a link between poverty and maternal care. According to Tripathy (2003), slum women do heavy manual work even till the day of delivery. The reason behind this is the women workers are not aware of the fact that if pregnant women carry heavy loads run a high risk of abortion. Lack of knowledge about the reproductive health is the result of high illiteracy rate in slum women. In nutshell, the knowledge factor of the women residing in slums make them a hapless victim regarding reproductive health and reproductive rights. Kotwal, N. *et al* (2008) study in Jammu slums focused on how dual task i.e. paid and unpaid job and the poor environment deteriorate the health of the women and the women experienced weakness, fatigue, breathlessness, poor appetite and frequent illnesses. According to them, due to lack of education mostly women were engaged as part-time housemaids, as informal women laborers, as vegetable venders and working in a ration shops and spending 12-15 hours on paid and unpaid work that put women to a great deal of health problems. The most common nutritional deficiency found in the respondents was of iron that leads to anemia. Therefore, illiteracy coupled with poverty make the health condition of slum women vulnerable as in order to contribute to their family income they indulge themselves in heavy workload even during pregnancy.

Table: 2 unveil the distribution of women by their workload during pregnancy. It has been observed in table: 2 that, out of 299 women, 179 women are engaged in urban unorganized sector. Unorganized sector includes petty trade (papad making, masala making, selling socks etc.), labor class, wrack pickers, domestic helpers etc. Around 26.8 percent of women reported 'no work' during

pregnancy but agreed upon unpaid work i.e. household chores. But a large percentage of women involved in dual work i.e. paid and unpaid jobs. Nearly 34.6 percent of women reported involvement of themselves into dual jobs till the day of delivery. Around 20.1 percent, 10.1 percent, 5.6 percent and 2.8 percent of women reported doing paid and unpaid jobs for 8 months, 7 months, 6 months and 5 months respectively.

Gole Panjpeer slum reported the highest percentage of women not doing paid jobs during crucial period of pregnancy whereas Kalika Colony reported the highest percentage of women doing paid and unpaid jobs during pregnancy. In nutshell, it will be not hyperbolic to say that illiteracy prone poor women have unfavorable low status and majority of women have dual work load on them during the crucial period of pregnancy.

(III) ANTENATAL CARE

Antenatal care is the particular form of medical supervision provided to a pregnant women and her child starting from the time of conception up to delivery. The antenatal care in pregnancy can play an important role in the uptake of evidence – based care vital to the health of women and their infants (Abou-Zahr, C. 2003). Addition to it, Islam, Z. M. (2014) considers antenatal care an important issue for women and children. According to him, very few numbers of women in slums receive antenatal care and associated factors like age at marriage, education, occupation, husbands' education, husbands' occupation, sources of drinking water, and vaccination plays an important role in it. Although antenatal care has a tremendous impact on the health of the mother and child but good quality antenatal care is not uniformly distributed in society. Despite the various government schemes, good quality antenatal care services are

not accessible to poor women. As discussed above utilization of antenatal care facilities is associated with educational status of women and their husbands (Alam. Y. A., *et al*, 2004). Undoubtedly, the involvement of husband and other family members in childbirth can improve the quality of natal care for women. The role of men in such matters is of great importance because decision makers in vast majority of Indian families are still males. According to The National Medical Journal of India (2007), there were consistent differences in antenatal care coverage between slum and non-slum areas. While 74 percent of women in non-slum areas received 3 or more antenatal care check-ups, only 55 percent of the women in slums did. Poverty and other forms of social disadvantage translate into poorer health status and outcomes for urban poor particularly women. Table: 3 reveals the treatment sought for antenatal problems faced by 250 respondents from 250 households. Around 57.2 percent of women experienced various problems like nausea and vomiting, swelling of feet, white discharge, anemic/excessive weakness or tiredness, giddiness, ache or pains or backache, fever, abdominal pain, low blood pressure, jaundice, diarrhea, night blindness. Approximately 56 percent reported more than one problem.

An attempt has been made in this table to assess the treatment sought in antenatal problems. It has been observed that 56 percent of women have not taken any kind of treatment while 17.5 percent and 19.5 percent resort to public health care institution and private health care institution respectively for antenatal problems. Interestingly, around 7 percent of women reported treatment from chemist. Therefore, it is revealed from table: 3 that majority of women's health is neglected during pregnancy.

Unfortunately, in the era of 21st century, these slum women are still neglected in the crucial period of pregnancy and are forced to work and moreover, their antenatal problems are not being treated.

CONCLUSION

Undoubtedly, there is a growth in feminization of urban poverty as inclination of women in the global migration trend is increasing. Poverty is a major factor driving women's labour force participation rates. Women from poorer households involved themselves in paid work and unpaid work. Unpaid work includes care work and domestic chores. Low literacy level in urban slums restricts slum women under the category of casual labourer or domestic servants. During pregnancy they are forced to do dual task i.e., paid and unpaid work. Moreover, due to their job pattern they cannot avail maternity leave. Women are neglected on various grounds which confirm that in the modern India, the woman is still a second grade citizen especially in urban slums. This paper unveiled the truth related to women of slums that they are one of the most neglected sections of society. Around 80.3 percent of women are observed as illiterates; 34.6 percent of women have dual work load (paid and unpaid jobs) on them during the crucial period of pregnancy and 56 percent did not receive any kind of treatment for antenatal problems. These are the factors which proved the negligence towards women of slums.

To conclude, women empowerment or inclusion of women in inclusive growth in India is a challenging task as we need to acknowledge the fact that gender based discrimination is a deep rooted social malice practiced in India in many forms since thousands of years. In India women, particularly slum women, are discriminated

and marginalized at every level of the society whether it is social participation, economic opportunity and economic participation, political participation, access to education, access to nutrition and access to better reproductive health care.

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Table - 1
Distribution of women of different slums by their educational level

Number of slums	Different classes			Total
	Illiterate	I – V	VI – X	
Dhounthly	32(88.8)	2(5.6)	2(5.6)	36
Bawe Basti	23(79.4)	3(10.3)	3(10.3)	29
Kabir Colony	22(71)	3(9.7)	6(19.3)	31
Rajiv Colony Pulpar	21(77.8)	4(14.8)	2(7.4)	27
Opposite Hotel Ravera	25(86.2)	4(13.8)	00	29
Gole Panjpeer	23(82)	2(7)	3(11)	28
Qasim Nagar Bahu Fort	20(71.4)	1(3.6)	7(25)	28
Kalika Colony	25 (78.1)	4 (12.5)	3 (9.4)	32
Muthi Bridge	23 (88.5)	2 (7.7)	1 (3.8)	26
Rajiv Nagar	26(78.8)	4(12.1)	3(9.1)	33
Total	240(80.3)	29(9.7)	30(10)	299

Source: Field Survey

*brackets shows percentage distribution

Table - 2
Distributions of working women by their work load during pregnancy

Number of slums	No work	No. of months					Total number of working women
		5 months	6 months	7 months	8 months	9 months	
Dhounthly	3(17.7)	00	00	00	4(23.5)	10(58.8)	17
Bawe Basti	4(18.2)	1(4.6)	2(9.1)	3(13.6)	5(22.7)	7(31.8)	22
Kabir Colony	5(41.7)	00	00	1(8.3)	00	6(50)	12
Rajiv Colony Pulpar	3(16.7)	1(5.5)	3(16.7)	2(11.1)	4(22.2)	5(27.8)	18
Opposite Hotel Ravera	7(31.8)	00	1(4.6)	1(4.6)	10(45.4)	3(13.6)	22
Gole Panjpeer	6(66.7)	00	00	2(22.2)	1(11.1)	00	09
Qasim Nagar Bahu Fort	7(31.8)	1(4.6)	3(13.6)	2(9.1)	3(13.6)	6(27.3)	22
Kalika Colony	2(10.5)	1(5.3)	1(5.3)	3(15.8)	2(10.5)	10(52.6)	19
Muthi Bridge	5(38.5)	00	00	1(7.7)	3(23.1)	4(30.7)	13
Rajiv Nagar	6(24)	1(4)	00	3(12)	4(16)	11(44)	25
Total	48(26.8)	5(2.8)	10(5.6)	18(10.1)	36(20.1)	62(34.6)	179

Source: Field Survey

*brackets shows percentage distribution

Table - 3
Distribution of respondent by treatment sought for antenatal problems

Number of slums	Treatment sought			No treatment	Number of suffering women
	Public	Private	Chemist		
Dhounthly	1(6.7)	2(13.3)	1(6.7)	11(73.3)	15
Bawe Basti	1(6.2)	4(25)	2(12.5)	9(56.3)	16
Kabir Colony	4(30.8)	2(15.4)	00	7(53.8)	13
Rajiv Colony Pulpar	3(25)	2(16.7)	00	7(58.3)	12
Opposite Hotel Ravera	2(11.8)	4(23.5)	3(17.6)	8(47.1)	17
Gole Panjpeer	2(13.3)	1(6.7)	2(13.3)	10(66.7)	15
Qasim Nagar Bahu Fort	6(37.5)	2(12.5)	00	8(50)	16
Kalika Colony	3(21.4)	5(35.7)	1(7.2)	5(35.7)	14
Muthi Bridge	2(14.3)	3(21.4)	00	9(64.3)	14
Rajiv Nagar	1(9.1)	3(27.3)	1(9.1)	6(54.5)	11
Total	25(17.5)	28(19.5)	10(7)	80(56)	143

Source: Field Survey

*brackets shows percentage distribution

Testing the Foreign Exchange Forward Rate Unbiasedness Hypothesis: An Indian Perspective

Dr. R.K.PATNAIK

Professor

S.P.Jain Institute of Management and Research,
Mumbai

Ms. MADHUPURNA BISWAS

MBA (Finance) student

S.P.Jain Institute of Management and Research,
Mumbai

Abstract

A number of empirical studies have been carried out over the years to test the forward rate unbiasedness hypothesis to conclude whether the forward rate can be an unbiased predictor of the future spot rate on a number of major global currencies. Over the past several years, a lot of global investors have had interest in emerging markets like India. This has led to a greater risk of currency exposure. Under such circumstances, it is important to examine opportunities for hedging risk with forward contracts being one of them. This paper tests whether the forward rate (one month and three month forward) is an unbiased predictor of the future spot rate in both the pre- and post- global crisis era in the Indian context (USD/INR currency exposure) as it has a direct impact on the forward contracts market followed by insights about the type of economic environment in which the different parties in a forward contract benefit along with the probability of benefit to re-establish the relevance of forward markets in a different light. While testing the hypothesis on one month and three month USD/INR forward rates, we conclude that the three month forward rate is not an unbiased predictor of the future spot rate. The one month forward rate has better predictability of the future spot rate although the error term is not a white noise process. A study of the deviation of the forward rate from the future spot rate gives interesting insights about the type of economic environment in which the different parties in a forward contract benefit and with what probability.

JEL classification:F31 G11, G15, G18.

Keywords:exchange rate ,forward premium, bias, puzzle, emerging markets, uncovered interest parity, exchange risk premium, E-mail address: *E-mail address: rk.pattnaik@spjmr.org **E-mail address: pgp13.madhupurna@spjmr.org

Authors acknowledge the data compilation works by Mr. Dattatray B. Yaddav, Research Associate. Views expressed in this paper are personal

INTRODUCTION

The foreign exchange market world over has witnessed a metamorphic transformation since the breakdown of Bretton Woods system in 1971. The introduction of floating exchange rate regime facilitated the reorientation of the forex market in terms of new products, instruments, infrastructure, institutions and regulatory structure. Consequent upon these changing delineations, there were significant developments in terms of turnover/liquidity, and operational efficiency/ risk transfers. As a sequel to the

global developments, Indian foreign exchange market has also moved a long way since 1978 when banks in India were permitted to undertake intraday trading in foreign exchange. The important milestones in this journey was the introduction of market determined exchange rate in April 1993, current account convertibility in 1994 and calibrated liberalization of the capital accounts since then. The regulatory structure also underwent changes. The Foreign Exchange Regulation Act (FERA), 1973 was replaced by the market friendly

Foreign Exchange Management Act (FEMA), 1999. The Reserve Bank of India (RBI) delegated powers to authorized dealers (ADs) to release foreign exchange for a variety of purposes. Furthermore the RBI has not only acted as the regulator of the market but also helped in the developments of the market with the objective to intervene in the market to reduce volatility.

With the exchange rate primarily getting determined by the forces of demand and supply, the issue of foreign exchange market efficiency has assumed importance in India in recent years. Markets are perceived as efficient when market prices reflect all available information, so that it is not possible for any trader to earn excess profits in a systematic manner. The efficiency/liquidity of the foreign exchange market is often gauged in terms of bid-ask spread. The bid-ask spread reflects the transaction and operating costs involved in the transaction of the currency. In such scenarios, the derivatives market in general, and the forward contracts market in particular, provide some assurance by mitigating foreign currency exposure through hedged positions.

Globally and also in India there were empirical studies to examine/reexamine the study the predictability of the future spot rate through the medium of the forward rate. There are mixed findings. The onset of global crisis opened up several issues pertaining financial market in general and for ex market in particular. It is in this context, the present paper makes an attempt to test the unbiasedness hypothesis of the foreign exchange forward rate in the pre-crisis and post crisis period in India.

Against the above backdrop, the remainder of the paper has been organized as follows. Section 2 presents an overview of the forward market in India. Section

3 discusses the literature review. The methodology and empirical results are presented in section 4. An analysis of deviation between forward rate and future spot rate is set out in Section 5. Concluding observations are in Section 6.

Foreign Exchange Market in India: An Overview

Development of foreign exchange market in India has been undertaken by the authorities in a gradual and calibrated, manner in line with those in other segments of financial market as also the markets in the real economy keeping in view the market infrastructure, technology and capabilities of market participants and financial institutions. Consequent upon the various financial market reform initiatives, the foreign exchange market today is equipped with several derivative instruments with the objective of product diversification and risk management. The evolution of India's foreign exchange market may be seen in line with the movement in India's exchange rate policies over the past few decades from a par value system to a basket-peg and further to a managed float exchange rate system. The Indian foreign exchange market is a decentralized multiple dealership market comprising two segments – the spot and the derivatives market. In the spot market, currencies are traded at the prevailing rates and the settlement or value date is two business days ahead. The two-day period gives adequate time for the parties to send instructions to debit and credit the appropriate bank accounts at home and abroad

Trading Volumes

The trading volumes in the Indian foreign exchange market have grown significantly over the past few years (Table 2.1).

According to the Bank for International Settlement (BIS) triennial survey 2013, the

share of Indian rupee (INR) was 1.1 percent of the global turnover with a daily turnover amount of US \$ 50 billion. In relative terms, turnover in the foreign exchange market were around 8 times of India's balance of payments during 2012-13 as compared with 5.4 times in 2000-01.

Spot segments of the market

The spot segment of the market is guided by the regulatory approach of the Reserve Bank of India (RBI) to avoid excessive volatility. Intervention by the Reserve Bank in the foreign exchange market, however, has been relatively small compared to total turnover in the market. The exchange rate policy in recent years has been guided by the broad principles of careful monitoring and management of exchange rates with flexibility, without a fixed target or a pre-announced target or a band, coupled with the ability to intervene, if and when necessary. (Mohan 2007)

The trends in monthly average spot rate revealed that in most of the period rupee has depreciated against US dollar. (Graph 2.1)

Volatility of the spot segment

Volatility in exchange rate is a common feature in a floating regime adopted by an emerging market economy like India. Recognizing this, the RBI has emphasized on volatility centric exchange rate management through sterilized and unsterilized intervention in the market by selling foreign currency during depreciation and purchasing foreign currency during appreciation. As the former RBI Governor Dr.Reddy, (2008) has observed :--- *"while interventions are with the objective of containing volatility in the for ex market, intervention over a long period, especially when the exchange rate is moving in one direction, could make interventions less effective. However, a critical question is what would be the impact on expectations about future movements in forex markets if*

no intervention takes place. The challenges of intervention and management of expectations will be particularly daunting when financial contagion occurs, since such events are characterized by suddenness, high speed and large magnitudes of unexpected flows, in either direction".

In this context Dr Reddy has further mentioned: *"There is a problem in differentiating between the flexibility and the volatility in exchange rates, in view of the evolving situation in EMEs. The distinction has to be based on the preparedness of the markets and the market participants. It is necessary to encourage expectations of greater flexibility and give notice to the market participants about increasing flexibility so that they are prepared, equipped and enabled to adjust to greater flexibility. Over a period, what was volatile yesterday becomes flexible tomorrow. This is the process by which we, in India, have been moving gradually to greater flexibility in exchange rate".*

In view of the above policy stance of RBI the volatility of exchange rate has not been very high during normal times (Table 2.2)

Forward segment of the market

The derivatives market encompasses forwards, swaps and options. Though forward contracts exist for maturities up to one year, majority of forward contracts are for one month, three months, or six months. Forward contracts for longer periods are not as common because of the uncertainties involved and related pricing issues. As in the case of other EMEs, the spot market is the dominant segment of the Indian foreign exchange market. The derivative segment of the foreign exchange market is assuming significance and the activity in this segment is gradually rising

An important aspect of functioning of the foreign exchange market relates to the behavior of forward premia in terms of its linkages with economic predictors of future spot rates. An analysis of forward premia, essentially reflects whether a currency is at a premium/discount with respect to other reserve currencies. Forward premia is particularly important for importers and exporters who need to hedge their risks to foreign currency. The forward market in India is active up to six months where two-way quotes are available. In recent years, however, the segment up to one year maturity has also gained liquidity. The link between the forward premia and interest rate differential seems to work largely through leads and lags.

The integration between the domestic market and the overseas market is more often through the forward market. The integration has been facilitated by allowing Authorized Dealers (ADs) to borrow from their overseas offices or correspondents and invest funds in overseas money market. The forward segment is also influenced by a number of other factors: (i) importers and exporters availing or extending credit to overseas parties (importers can move between sight payment and 180 days usance depending on the global interest rate, domestic interest rate and expectations on future spot rate); (ii) importers switching between rupee credit and foreign currency credit; (iii) the decision to hedge or not to hedge the exposure, depending on expectations and forward premia; (iv) exporters delaying payments or advance receivables, subject to conditions on repatriation and surrender, depending upon the interest on rupee credit, the premia and interest rate overseas; and (v) availing of pre/post-shipment credit in foreign exchange and switching between rupee and foreign currency credit.

With the opening up of the capital account, the forward premia is getting gradually aligned with the interest rate differential reflecting growing market efficiency. While free movement in capital account is only a necessary condition for full development of, the forward and other foreign exchange derivatives markets, the sufficient condition is provided by a deep and liquid money market with a well-defined yield curve (RBI 2007).

In the post-liberalisation phase, the forward premia of the US dollar *vis-à-vis* Indian rupee has generally remained high indicating that rupee was at a discount to the US dollar. In recent times, however, reflecting the build-up of foreign exchange reserves, the strong capital flows and the confidence in the Indian economy, the forward premia has come down sharply from the peak reached in 1995-96. For a short period in 2003-04, the forward premia turned negative defying the traditional theory according to which the currency of a country with higher inflation rate/interest rate should be at a discount *vis-à-vis* other country's currency. This was the period when Indian rupee was gaining strength against the US dollar, which depreciated against most other currencies. The period since 2002 has, in fact, witnessed sharp co-movement of forward premia and exchange rate with the premia exhibiting a decline, whenever rupee appreciated. Forward premia is also affected by movements in call rates, reflecting the principle of interest-rate parity. Tightening of liquidity in the domestic market immediately pushes up call rates, which in turn, pushes up forward premia. Whenever liquidity in the domestic market is tightened, banks and other market players sell the US dollar in cash or spot market and buy in the forward market pushing forward premia upward (RBI 2007).

The trends in forward premia have been in line with the capital flows couple

with the interest rate differential. During some years the forward premia was also at discount (Graph 2.2)

As a result of various measures, the Indian foreign exchange market has evolved into a relatively mature market over a period of time with increase in depth and liquidity. The turnover in the market has increased over the years. With the gradual opening up of the capital account, the forward premia are getting increasingly aligned with the interest rate differential. There is also evidence of enhanced efficiency in the foreign exchange market as is reflected in low bid-ask spreads. The gradual development of the foreign exchange market has helped in smooth implementation of current account convertibility and the phased and gradual opening of the capital account. The availability of derivatives is also helping domestic entities and foreign investors in their risk management. This approach has helped India in being able to maintain financial stability right through the period of economic reforms and liberalization leading to continuing opening of the economy, despite a great degree of volatility in international markets, particularly during the 1990s.

LITERATURE REVIEW

Conceptual Framework

The "Unbiased Forward Rate Hypothesis" (UFRH) under the assumption that the forward exchange rate contains all available information regarding exchange rate expectations, argues that forward premia predicts the direction change in future spot rate. The UFRH is derived from the theoretical underpinnings of Covered Interest Rate Parity (CIP) and Uncovered Interest Rate Parity (UCIP) conditions. The CIP assumes no-arbitrage conditions in the foreign exchange market and thus the market players are not exposed to risk while using a forward contract. The forward rate (P), therefore contains a premium or

discount, reflecting the interest rate differential between two countries. The UCPI, on the other hand assumes that exchange rate between the two countries is expected to adjust in such a manner that domestic return in home currency is equal to domestic return in foreign currency.

$$\text{CIP: } (1+I_d) = F/S(1+I_f) \quad \text{----(1)}$$

Where, I_d =return on domestic currency, I_f =return on foreign currency, F =future rate, S =spot rate

$$\text{UCPI: } (1+I_d)=[E_t(S_{t+k})/S_t](1+i_f) \quad \text{----(2)}$$

Dividing UCIP between CIP we get

$$1 = E_t(S_{t+k})/F_t \quad \text{---- (3)}$$

Or,

$$F_t = E_t(S_{t+k}) \quad \text{---- (4)}$$

Where, F_t is the forward rate at time t , S_{t+k} is the spot rate at time $t+k$ and $E_t(S_{t+k})$ is the expected future spot rate at $t+k$, k is the number of periods in to the future from time t .

$$S_{t+k} - S_t = \alpha + \beta(F_t - S_t) + U_{t+k} \quad \text{---- (5)}$$

The change in spot was considered the dependent variable whereas the forward premium was the independent variable in this equation. The OLS regression, according to the hypothesis must not throw up an error term with serial correlation, the constant term(α) must not vary too far from zero and the coefficient term(β) must not be different from a value of one. U_{t+k} is the realized forecast error and must have a value of "zero". The validity of equation 5 above is consistent with the "Unbiased Hypothesis".

Empirical Studies

Global context

Globally, a large body of literature has emerged debating with empirical analysis on the theme whether the forward exchange rate is an unbiased predictor of future spot exchange rates. It is pertinent to note that broadly there are two

sets of empirical analysis. The first set of empirical studies (Cornell, 1977, Frenkel, 1980, Levich, 1979) involves regression of the log of the future spot exchange rate, S_{t+1} , on the log of the current forward exchange rate, F_t . This has been referred to as the "level" specification. The results of these studies generally vindicated the UFRH as the regression results had coefficient close to unity.

The second set of studies (Bilson, 1981, Fama, 1984, Frenkel and Froot, 1989) verified UFRH with a regression analysis taking into account the future change in the log of the spot exchange rate (S_{t+1}) on the forward premium ($F_t - S_t$), i.e. on the log of the forward exchange rate minus the log of the spot exchange rate. Contrary to the conceptual framework, the regression estimates of this forward premium specification had a coefficient that is significantly less than unity and also negative. This phenomenon thereafter became famous in the literature as "Forward Premium Puzzle".

A few empirical studies (Isard, 1995, Meese, 1989, Meese and Singleton, 1982) argued that since the variables in the level form – the future spot and current forward exchange rates – are non-stationary $I(1)$ variables, they have unit roots and therefore the levels regression is not a valid regression equation because of the spurious regression problem. Therefore, subsequent studies by (Engle and Granger, 1987, Hamilton, 1994, Wei and Hai et al. (1997) used dynamic OLS estimator on the 'levels' regression to provide evidence that F_t and S_{t+1} are cointegrated with cointegrating vector $[1, -1]$. Thus, there was a renewed interest in 'level' specification as it was no longer needed to focus only on "forward premium" specification to evaluate market efficiency (Chakraborty and Haynes, 2005).

While explaining the reason(s) for coefficient deviation from unity – in both forward and level specification – focused on explanations involving a risk premium in the forward exchange market. However, Froot and Frankel (1989), validated empirically that the bias could be primarily attributed to the systematic forecast error, which is negatively correlated with the forward premium, rather than to a forward market risk premium. Cornell (1989) also argued that the negative values of the slope coefficient were due to measurement errors in the data used to test the UFRH.

A few studies before the crisis of 2008 are in order. Hai, Mark and Wu (1997) used the log spot and forward rates of the pound sterling, the franc and the yen all relative to the dollar for the study. Their model tried to explain why the forward rate may be an unbiased predictor of the future spot rate although an increase in the forward premium implies dollar appreciation. Wu and Zhang (1997) observed whether apart from rejection of the forward rate unbiasedness theory, the forward premium can forecast the direction of change in the future spot rate using a distribution free non parametric approach. They concluded that the forward premium contains either no information or wrong information about future currency depreciation. Delcoure, Barkoulas, Baum and Chakraborty (2003) have observed mixed results from the forward rate unbiasedness test. Applying the Johansen likelihood ratio (JLR) test to eight major currencies of the post-Bretton Woods period, the results produced supported evidence of a coefficient close to the value of unity for the regression between forward and spot rates for all the currencies but the orthogonality condition was met only by three currencies. Hence the forward rate unbiasedness hypothesis was rejected for all currencies except Deutsche mark, Swiss franc and Italian lira. Nikolaou and Sarno

(2005) extended the test to currency options apart from the traditional forward rates.. Their results not only bridged the gap between the options (exchange traded) market and the forwards (OTC) market but also supported the unbiasedness theory for both the forward and options markets with respect to forecasts of future spot rates.

The post Waheed (2009) studied the forward rate unbiasedness hypothesis from the perspective of the Pakistani rupee against the dollar. The paper strongly rejects the hypothesis by two separate approaches- studying changes in spot rate to forward premium and using cointegration tests. The paper suggests this the forward rate cannot be an unbiased predictor of the future spot rate as the market's expectation of exchange rate movements did not follow rational behavior and also because of the possibility of time varying risk premium. Sanchez and Martin (2013) have conducted this study on a number of major global currencies like the yen, euro and pound sterling relative to the dollar and have observed the behavior of these currencies in the pre- and post- global financial crisis era.

Indian context

Contemporaneous with global empirical literature in Indian context also a few studies have been undertaken to test the validity of UFRH both at level specification and forward premia specification.

Vij (2002) used forward premium specification to test the UFRH in Indian forex market for the period October 1997 to June 2001 and found out that forward rate is not an unbiased predictor of the future spot rate. Sharma & Mitra (2006) tested the UFRH in Indian for ex market by using the forward premium specification over the period September 2000 to December 2005. They found out that UFH does not hold good for Indian market. The results of the

study by Frankel and Poonawala (2006) using forward premium specification for the period October 1997 to December 2004 also rejects the UFH in India. Another study has observed that the forward premia for the period 1997 to 2002 systemically exceeded rupee depreciation, implying that there has been an asymmetric advantage to sellers of dollar forwards (Ranade and Kapur, 2003).

The forward rate behaviour as to whether forward rates are unbiased predictor of future spot rates with level specification for the period April 1993 to January 1998 was tested by (Joshi and Saggarr, 1998). They found that forward rates cannot effectively predict the future spot rates and there is no co-integration between forward rates and future spot rates

Kumar and Mukherjee (2007) used the level specification to test the UHF in the Indian market. In this paper, they attempted to investigate the empirical issue of market efficiency for the Indian Rupees vis-à-vis the US Dollar using the monthly data from August 2000 to January 2007. The empirical evidence for the entire sample period indicates that the current forward rate is significant in the prediction of the future spot rate.

Regression results after correcting for serial correlation showed that the estimated coefficient of the one period lagged forward rate did not significantly differ from unity. However, the constant term is significantly different from zero. This means that the constant term is capturing information that is not captured in the forward rate, or that the forward rate does not fully reflect all information available to economic agents. Based on the above observations the authors concluded that UFH does not hold in Indian for ex market.

The RBI (2007) undertook an analysis using the data for the period during January 1995 to December 2006.

The study thus with level specification revealed that the ability of forward rates incorrectly predicting the future spot rates has improved over time and that there is some co-integrating relationship between the forward rate and the future spot rate. According to this study the findings could be attributed to the gradual opening up of the Indian economy, particularly in the capital account, together with other reform initiatives undertaken to develop the forward market such as introduction of new instruments, trading platforms and more players.

Objective of the present study based on the literature review

In Indian context the empirical studies to validate the UFRH were undertaken both at level specification and forward premium specification. We found that most of the studies on have rejected UFRH after analyzing the observations with regression test and co integration test. The RBI (2007) study, however, found some validity of UFRH at level specification. In this paper, the objective is to test UFRH on the Indian rupee against the US dollar in the pre-crisis (2003-2008) and post crisis (2008- 2013) period as there is no such study apparently undertaken. This will help us to understand the impact of liberalization of capital account and the behavior of the forward market in response to volatility of spot rate. Another aspect of the study is to analyze both one month and three months forward rate which are not done in earlier studies.

METHODOLOGY AND EMPIRICAL ANALYSIS

Methodology

Regression of the future spot and forward rate:

The following equation with level specification sums up the forward rate unbiasedness hypothesis:

$$S_{t+1} = \alpha + \beta F_t + \varepsilon_t$$

Where S_{t+1} is the one month future spot rate and F_t is the one month forward rate. For the hypothesis to be true $\alpha=0$ and $\beta=1$.

The data to test this hypothesis is the one month and three month future spot rate and forward rate of the INR against the dollar for the period 2003 to May 2014 with two period analysis pre crisis (2003-2008) and post crisis(2008- 2014)

Data are extracted from the RBI and Bloomberg database.

Unit Root test on the error term:

In conformity with the theoretical underpinnings of level specification to test UFRH our methodology also covers the stationarity of the error term. For the hypothesis to be true, the error term must be a stationary white noise error term along with $\alpha=0$ and $\beta=1$.

$$S_{t+1} = \alpha + \beta F_t + \varepsilon_t$$

Assuming that $\alpha=0$ and $\beta=1$ hold true, we can rewrite the equation as

$$S_{t+1} - F_t = \varepsilon_t$$

If the result of the ADF test on the (log) error term throws up a significant p-value at the 5% level of significance, it implies that the null of the ADF test can be rejected. In other words, if the test statistic is more negative than -2.86, then the null hypothesis is rejected.

H0: Series is non-stationary.

H1: Series is stationary.

We have also, undertaken the Phillips Perron test which has the same conditions.

We have checked the the log of error term for serial autocorrelation graphically and also with the Q test with null and alternate hypotheses as stated below.

H0: No serial correlation up to 10 lags.

H1: There is serial correlation up to 10 lags.

To further confirm the power of the lagged values, we have undertaken a regression analysis on the error term as the dependent variable and the first lag of the error term as the independent variable. The expected result is $\varepsilon_t = \alpha + \beta\varepsilon_{t-1}$.

Empirical Results

Regression results of the forward rate and future spot rate:

Running a regression with the future spot rate as the dependent variable and the forward rate as the independent variable on Stata the following results were observed (Table 4.1).

The regression results revealed that the three months forwards rate did not predict the corresponding future spot rate as the beta values (β) are not very close to one ($\beta = 1$) and also the alpha values (α) are significantly different from zero. However, between the two time periods i.e. 2003-2007 and 2008-2014 it was observed that the beta values (β) and alpha values (α) showed some improvements in the latter period. Overall, the three months forward rate did not qualify as an unbiased predictor of the future spot rate. Thus the UFRH is rejected.

In contrast to the above results for three months, the regression results for one month forward rate and future spot rate, revealed that the beta values have been closer to 1 along with better R-square values. Also the alpha values have been closer to zero. This is in line with the RBI study (2007) on the same hypothesis for the period from January 1995 to December 2006. Out of the two time periods, the period between 2003-2007 shows improved values for the (α) and (β) coefficients. Thus for the one month forward rate for 2003-2007 is validating the UFRH.

Unit Root Test on the error term

In addition to the regression analysis, the theory as explained above requires the error term to be a white noise stationary process. Thus we need to run the unit root tests on the error term to check for stationarity and the existence of possible serial correlation.

The results of ADF and Phillips Perron tests are set out below (Table 4.2).

As it can be seen from the above table, for the one month forward rate period between 2003-2007, the log of error term is in conformity with the formal tests of stationarity i.e. the ADF test and the Philips Perron tests. Thus in totality, we observe that the one month forward rate for the period between 2003-2007 was an unbiased predictor of the future spot rate.

Although the formal tests have shown that the error term is stationary in all the sample periods except for 2003-2007 (3 months forward rate), we cannot firmly say that it is a white noise error term in these sample periods due to the autocorrelation function graph and the partial autocorrelation function graph of the error term.

Graphs 4.1-4.4 exhibit significant amount of serial autocorrelation in the error term, thus weakening the case for stationarity of the error term.

Further, the Q test run on 10 lag values for existence of correlation shows that there is significant correlation till lags 10 in all the sample periods that even passed the stationarity tests above as the p-value is significant at 5% level of significance thus rejecting the null hypothesis of no serial autocorrelation. (Table 4.3)

To further confirm the power of the lagged values, a regression analysis on the error term as the dependent variable and the first lag of the error term as the

independent variable gave the following results. (Table 4.4)

In all the cases we observe that the coefficient of the lag value tends to one, indicating strong correlation on the value of the error term further reinforcing the fact that there is significant serial autocorrelation in the error term values in all four sample periods.

If the coefficient of the first lag value of the error term would have equal to 1, the error term could be defined as a non-stationary random walk process. But with the beta value (0.95) less than 1, we may conclude that the error term qualifies as a stationary process but not a white noise process with zero serial correlation but instead as an autoregressive process of the first order.

These results imply that the error term is definitely not a white noise error term, but as the error term confirms with the formal tests of stationarity therefore, broadly, we conclude that for the period between 2003-2007, the one month forward rate was an unbiased predictor of the future spot rate.

On the basis of the discussions in this section the following conclusions have emerged.

The decadal analysis suggested that the three months forward rate is not an unbiased predictor of the future spot rate both in the pre-crisis and post- crisis period.

The one month forward rate is an unbiased predictor of future spot rate in the pre and post crisis period with the pre-crisis period showing slightly stronger results in the regression test.

The one month forward rate broadly confirmed to the UFRH both in terms of regression and unit root tests. The error term qualifies as a stationary process but not a white noise process with zero serial

correlation but instead as an autoregressive process of the first order.

ANALYSIS OF DEVIATIONS OF FORWARD RATE FROM FUTURE SPOT RATE

Loss/ Gains through forward contracts

We undertook an analysis of data mapping of both three and one month forward rates with their respective future spot rates to address the contextually relevant question: why was there a deviation of forward rate from the future spot rate? According to our data mapping in the case of one and three months forward rate the currency appreciated in the range of around 53 to 69 times out of 100 cases. Also, rupee depreciated in the range of 31 to 47 times out of 100 cases. (Table 5.1)

Here, one must take into account the perspective of the forward market player. An exporter, who has sold his receivables forward at a particular level, stands to make a notional loss in comparison to an unhedged position if the domestic currency depreciates beyond the contracted level. On the other hand, an importer stands to gain in comparison to an unhedged position if the domestic currency depreciates beyond the contracted level.

The reason behind the trend in currency appreciation/depreciation observed in Table 5.1 could be attributed to the fact that India is an emerging market economy and is prone to a depreciating bias which is not a surprise to market players. However, appreciation of rupee is less predicted as it is primarily dependent on sudden and unpredictable surge of capital inflows. Commenting on this aspect as the regulator of foreign exchange market Padamabhan (2011) has observed: *“Derivatives are essentially inter-temporal transactions contingent on a future view of the state of the world. When in the underlying cash market, the exchange rate*

exhibits great deal of volatility, it is natural that there will be a spurt in activities in the derivatives market for different motivations: for hedging actual exposures, for arbitraging and also for speculation”.

Padamnabhan (2012a) further adds: *“Because all financial prices are inherently forward looking in the sense that they incorporate the participants’ future view, it is no wonder that volatility is their most important attribute. It is further complicated by the fact that usually our future view is informed by our past experience”.*

From the above discussion we observe that:

The Indian exporters have benefited more than importers by entering a forward contract 53 to 69 times out of 100 cases as currency appreciation would mean receiving less rupees to a dollar in an unhedged environment. By hedging with a forward contract, the exporter is receiving more rupees to a dollar as compared to the unhedged position.

The Indian importers, on the other hand, have benefited only 31 to 47 times out of 100 cases as currency depreciation would mean paying more rupees to a dollar in an unhedged environment. By hedging with a forward contract, the importer is paying less rupees to a dollar as compared to the unhedged position.

Although we have observed that exporters have in general benefited more than importers by entering forward contracts, it does not imply that the importers should shy away from the forward market. After all, the idea of using the forward contract is to avoid anxiety of potential losses and gains in the future. Contextually, it is appropriate to quote Padmanabhan (2012 a). *“The hedging strategy should be part of a well conceived risk management framework built around assessment of risk and risk appetite. Having bought certainty through a*

hedge, the agent should be free to concentrate on his chosen line of activity without bothering about the potential gain or loss on account of currency movement. Having bought a car insurance, one should not regret that no accident has taken place.”

CONCLUDING OBSERVATIONS

The evolution of India’s foreign exchange market may be viewed in line with the shifts in India’s exchange rate policies over the last few decades from a par value system to a basket-peg and further to a managed float exchange rate system. The Indian foreign exchange market is a decentralised multiple dealership market comprising two segments – the spot and the derivatives market. In Indian context the empirical studies to validate the UFRH were undertaken both at level specification and forward premium specification. We found that most of the studies on have rejected UFRH after analyzing the observations with regression test and co integration test. The RBI (2007) study, however, found some validity of UFRH at level specification. In this paper, the objective is to test UFRH on the Indian rupee against the US dollar in the pre-crisis (2003-2008) and post crisis (2008- 2013) period as there is no such study apparently undertaken. This will help us to understand the impact of liberalization of capital account and the behavior of the forward market in response to volatility of spot rate. Another aspect of the study is to analyze both one month and three months forward rate which are not done in earlier studies.

On the basis of the discussions in this section the following conclusions have emerged.

The decadal analysis suggested that the three months forward rate is not an unbiased predictor of the future spot rate both in the pre-crisis and post- crisis period.

The one month forward rate is an unbiased predictor of future spot rate in the pre and post crisis period with the pre-crisis period showing slightly stronger results in the regression test.

The one month forward rate broadly confirmed to the UFRH both in terms of regression and unit root tests. The error term qualifies as a stationary process but not a white noise process with zero serial correlation but instead as an autoregressive process of the first order.

A study of the deviation of the forward rate from the future spot rate gives interesting insights about the type of economic environment in which the different parties in a forward contract benefit and with what probability. All in all, one must not be biased about the usefulness of forward contracts based on the results of this study as the primary motive is that of hedgeability against future risks.

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APPENDIX

Table - 2.1
Turnover in Foreign Exchange market(US \$ Billion)

ITEM	2005-06	2013-14
Annual		
Total Turnover	4403.87	12154.40
Merchant Turnover	1217.17	2768.03
Interbank Turnover	3186.70	9386.38
Interbank/Total (ratio)	2.62	3.39
Spot/ Total (%)	50.51	51.75
Average Daily		
Total Turnover	16.07	49.81
Merchant Turnover	4.44	11.34
Inter Bank Turnover	11.63	38.47

Table - 2.2
Volatility in Spot rate

Sample Period	Std. Deviation of % variation	Coeff. Of variation
Apr 2003- Sep 2008(Pre- crisis)	1.635	-0.029
Oct 2008- Nov 2009(Crisis)	2.710	0.070
Dec 2009- June 2014(Post Crisis)	2.356	0.198

Table - 2.3
Turnover in the Forward Contract (US \$ Billion)

ITEM	2005-06	2013-14
ANNUAL		
TOTAL FORWARD	837.0	1319.7
MERCHANT FORWARD	381.8	884.5
INTER-BANK FORWARD	167.6	435.1
MERCHANT FORWARD CANCELLATION	287.7	525.9
FORWARD/TOTAL TURNOVER (%)	19.0	10.9
TFWC/TOTAL TURNOVER (%)	12.5	10.9
MFC/TOTAL TURNOVER (%)	6.5	4.3

Table - 4.1

Regression results of three and one month forward and future spot rate

THREE MONTHS FORWARD AND FUTURE SPOT RATE					
Sample Period	No. of observations	α	β	p-value*	R-square
2003-2007	1148	0.711	0.809	0.000	0.6985
2008-2014	1121	0.527	0.865	0.000	0.7981

*p-values are at 5% level of significance

ONE MONTH FORWARD AND FUTURE SPOT RATE					
Sample Period	No. of observations	α	β	p-value*	R-square
2003-2007	1355	0.124	0.9658	0.000	0.9271
2008-2014	1509	0.167	0.9573	0.000	0.9450

*p-values are at 5% level of significance

Table - 4.2
ADF and Phillips Peron Test

AUGMENTED DICKEY FULLER TEST ON LOG OF ERROR TERM					
Sample Period	Forward rate	No. of observations	p-value*	Test statistic	5% critical value
2003-2007	1 month	1345	0.0001	-4.74	-2.86
2008-2014	1 month	1504	0.000	-6.698	-2.86
2003-2007	3 months	1143	0.2619	-2.058	-2.86
2008-2014	3 months	1116	0.0039	-3.718	-2.86

*p-values are at 5% level of significance

PHILLIPS PERRON TEST ON LOG OF ERROR TERM					
Sample Period	Forward rate	No. of observations	p-value*	Test statistic	5% critical value
2003-2007	1 month	1353	0.000	-5.261	-2.86
2008-2014	1 month	1508	0.000	-6.645	-2.86
2003-2007	3 months	1147	0.2166	-2.172	-2.86
2008-2014	3 months	1120	0.0045	-3.674	-2.86

*p-values are at 5% level of significance

Table - 4.3
Q-test on log of error term

Q-TEST TEST ON LOG OF ERROR TERM			
Sample Period	Forward rate	No. of observations	p-value*
2003-2007	1 month	1345	0.000
2008-2014	1 month	1504	0.000
2003-2007	3 months	1143	0.000
2008-2014	3 months	1116	0.000

*p-values are at 5% level of significance

Table - 4.4
Regression of the error term on its first lag value

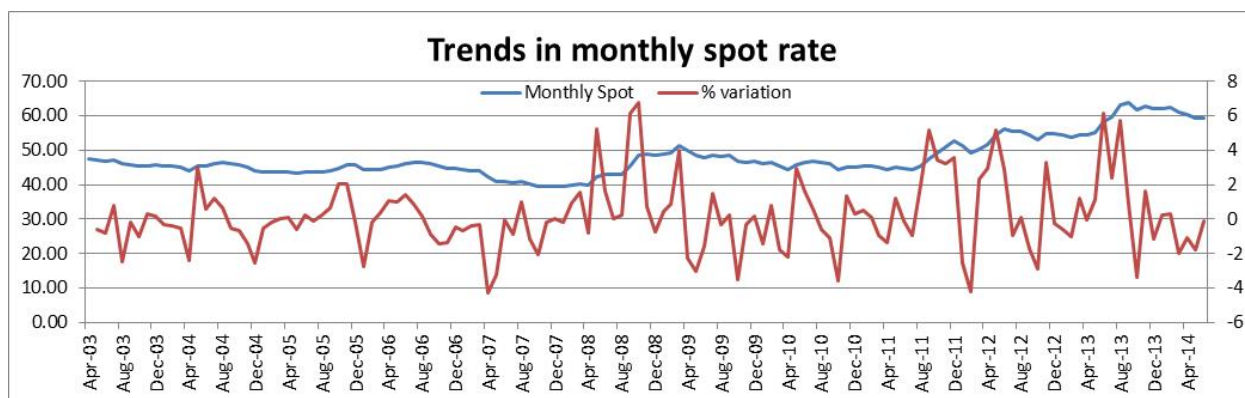
REGRESSION OF THE ERROR TERM ON ITS FIRST LAG VALUE							
Sample Period	Forward rate	No. of observations	α	β	p-value* of α	p-value* of β	R-square
2003-2007	1 month	1353	-0.00223	0.9574	0.062	0.000	0.9159
2008-2014	1 month	1508	0.000014	0.9533	0.948	0	0.9087
2003-2007	3 months	1147	-0.0000558	0.989	0.719	0	0.9732
2008-2014	3 months	1120	-0.0000925	0.9779	0.778	0	0.9567

*p-values are at 5% level of significance

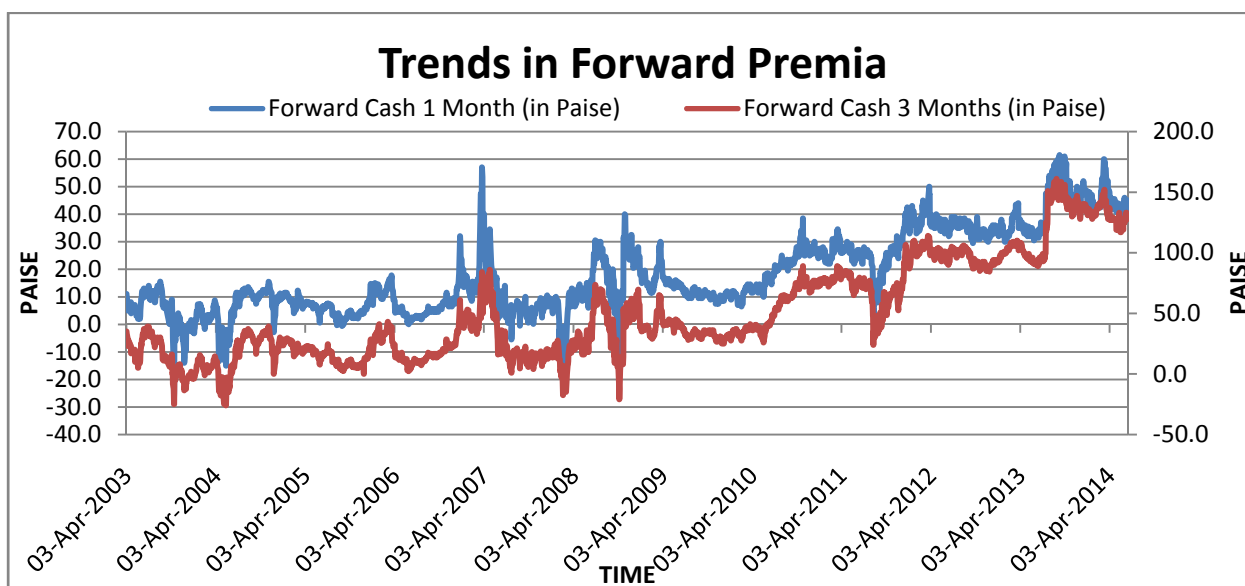
Table - 5.1
Depreciation / Appreciation: loss/gain

Sample Period	Forward Rate	No. of observations	Home Currency (Rupee) Appreciation	Home Currency (Rupee) Depreciation
2003-2007	1 month	1356	66.52%	33.48%
2008-2014	1 month	1509	53.28%	46.72%
2003-2007	3 month	1148	69.16%	30.84%
2008-2014	3 month	1121	57.80%	42.20%

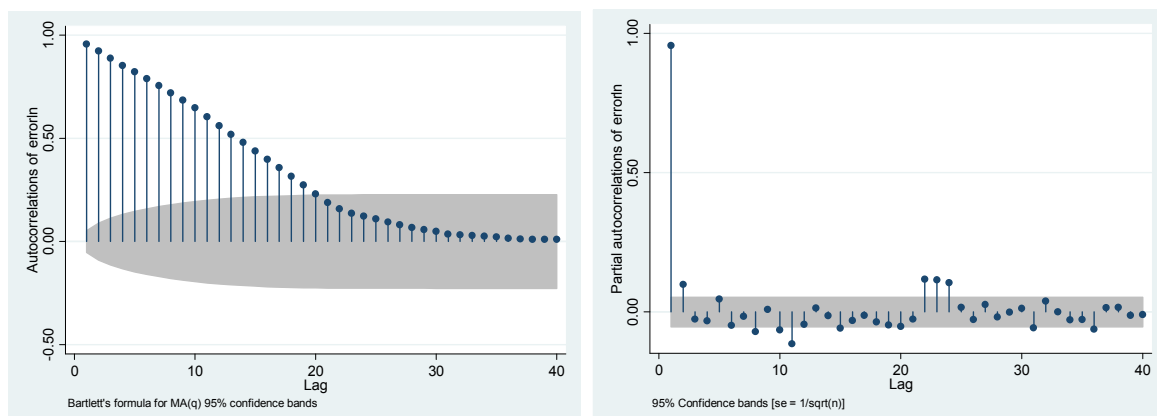
Graph - 2.1
Trends in Monthly average spot rate



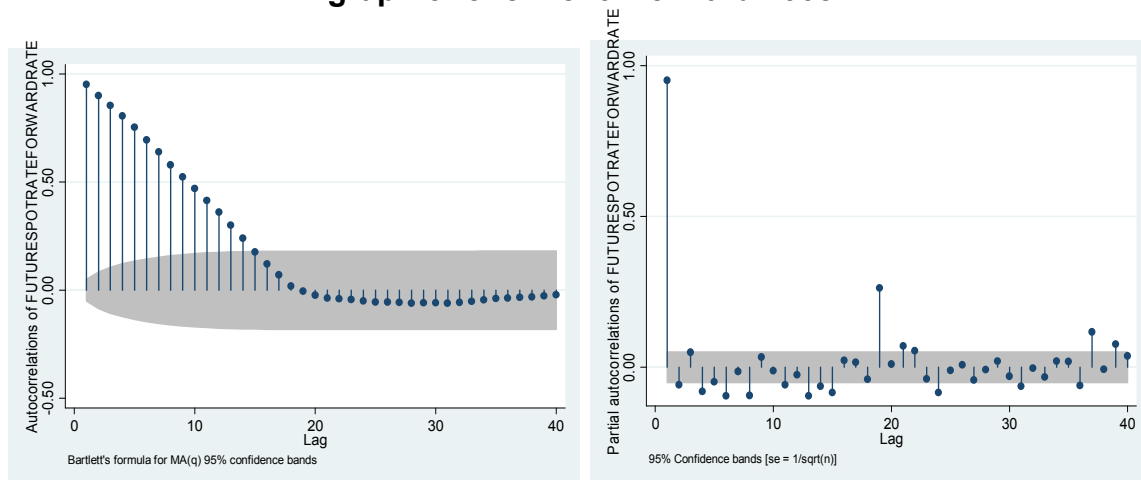
Graph - 2.2
Trends in forward premia



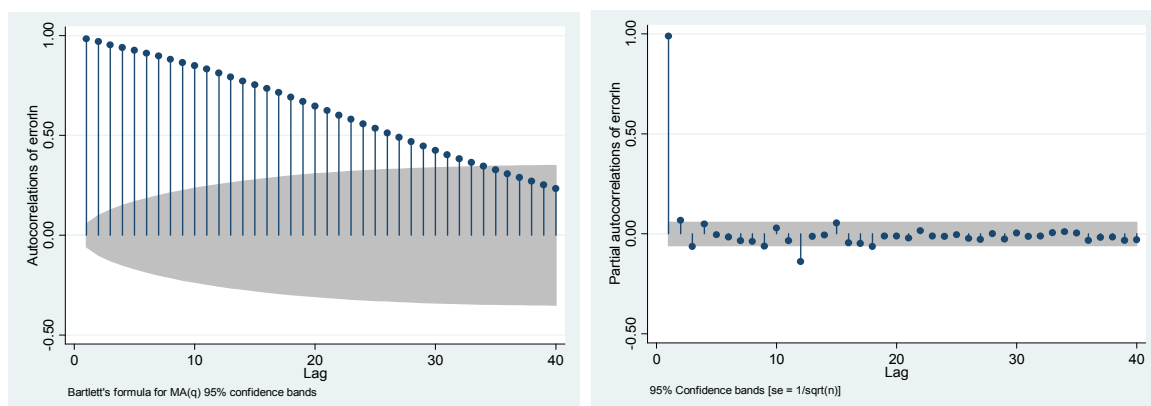
Graph - 4.1
Error term autocorrelation function graph and partial autocorrelation function graph of one month forward 2003-07



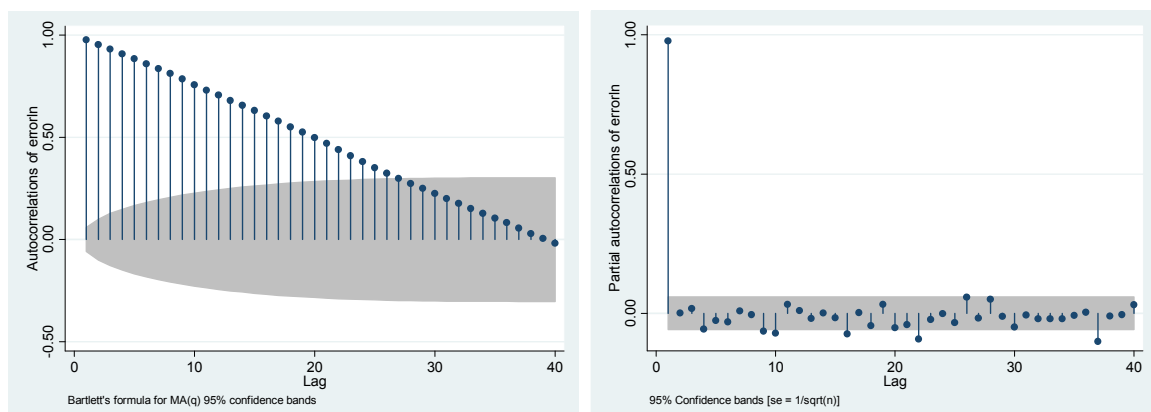
Graph - 4.2
Error term autocorrelation function graph and partial autocorrelation function
graph of one month forward 2008-14



Graph - 4.3
Error term autocorrelation function graph and partial autocorrelation function graph
of three month forward 2003-07



Graph - 4.4
Error term autocorrelation function graph and partial autocorrelation function graph
of three month forward 2008-14



Recruitment Practices and Performance in the Tourism Industry of Ghana: A Comparative Study of Selected Small and Medium Hotels

Dr. Mrs Esther Theresa Appaw-Agbola
Ho Polytechnic
Dean, International Programmes
Box 217, Ho, Ghana, W/Africa
Website: www.hopoly.edu.gh.

Abstract

Performance efficiency of the tourism sector has been an area of concern for both the government as well as the public in Ghana. Ministry of Tourism, Ghana Tourist Authority and other stakeholders have been stressing on the need to hire qualified employees to work in the various sectors of the tourism industry to perform services to international standard. Since the Government of Ghana in its economic development plans aims to make tourism its number one foreign exchange earner by the year 2015.

However, previous research confirms that, the achievement of Ghana's tourism development plan depend on the quality and competences of the human resources in the hotel sector, since they form the key part in the delivery of the tourism product. Though Ghana tourism education has been developed for the past 20 years, there exists a big gap between supply and demand for quality managers, supervisors and operative staff within the tourism industry. In addition, small and medium-sized hotels are highly patronised by visitors yet received relatively little research attention in Ghana.

Therefore, the study sought to examine recruitment practices in selected medium hotels and compare the trend and practices in small hotels. A mixed-methodological approach via interviews and

Questionnaire surveys were used for the study. Data for the study were collected from four hundred and twenty seven (427) employees who worked in the various sections of the hotels. Results from regression to test the association among the variables reveals that recruitment practices in small and medium hotels have significant influence on employee performance. In addition, the percentage of variance in employees' attitude was most significantly influenced by recruitment strategies adopted by employers in the selected hotels in Ghana. The paper recommends that the shortfall in recruitment practices in the selected hotels could be addressed if hotel organizations developed recruitment strategies that incorporate diverse range of sources to reach quality applicants in the required target market of Ghana.

Keywords: *Recruitment, Performance, Hotels, Tourism, Medium, Small*

INTRODUCTION

Tourism business are operating in a competitive global environment, thus human resource practices (recruitment) of employees have been recognized as a critical dimension to organizational performance and success. The ongoing interest in strategic human resource management reflects the growing awareness that human resources are the

key component that can help an organization become more effective and achieve a competitive advantage (Becker and Gerhart, 1996).

Nonetheless, a large question remains unanswered in the hotel industry of Ghana. Do employers in hotel organizations actually recruit the rightful people to perform the various functions in hotels for efficiency in their organizations?

If they do, what are the practices like towards job performance, satisfaction and the overall effectiveness of hotel organizations? However, although there are uncertainties, a thorough study on recruitment issues in large hotel organizations in Ghana revealed that though there are well defined policies, hotel organization were not able to recruit the 'right' skill workforce. According to Holbeche (2001) recruitment should not be simply a question of filling gaps but should focus proactively on bringing into organization the skills and experience which cannot be built from within. Undeniably, effective recruitment is critical to success of organizations and recruitment policies should be aligned with organizational goals (Bells,2002).

The process of recruitment begins when the line managers realized the need of taken a new workforce into their organization. It involves such sub activities like job analysis, designing, descriptions and gathering enough response through platforms. It continues to go through transition phase when organizations plan to short list applicants on the basis of pre-defined criteria. Moreover, it goes through final selection process and ends up when employees received appointment letters. Through effective management of key HRM practices (recruitment), hotel organizations should be able to attract and retained qualified employees who are motivated to perform, hence, will contribute to organizational effectiveness and performance.

Against the above background, the purpose of the study was to examine recruitment practices and performance using selected small and medium hotels in two regional capitals of Ghana. Small and medium hotels were selected because they are numerous than large hotels and majority of tourists that visit the country uses these facilities.

OBJECTIVES

To determine which recruitment method are most effective among small and medium hotels in Ghana.

To recommend policies concerning recruitment issues in the tourism sector of Ghana.

In determining the association between an effective recruitment practices with performance in (Ghana), the test hypothesis is hence formulated as follows:

Null hypothesis (H_0): effective recruitment practices and hotel employees performance is not related.

Alternative hypothesis (H_1): effective recruitment practices and hotels employees' performance is related.

Furthermore, Brewster and Bournois,1991; Guest, 1989a) argued that, whatever models and perspective on HRM are used, they believe that both recruitment policies and practices should be done strategically and be perceived as integral part of the organization. According to them recruitment issues do not only seek to attract, obtain and retain the human resources the organization needs to achieve their strategic goals, but may have significant impact upon the composition of the workforce, the ultimate fit with the organization's needs and culture. Also long-term employment stability and human development Hsu and Leat,(2000). Morden day hotel organizations cannot ignore the fact that a key element of an organization's resource capability is its people and much attention should be given to recruitment issues. In addition (Zhang, 2013) stated that recruitment processes are very paramount

and the need to integrate it into a coherent “bundle” by organizations in order to support the delivery of business or corporate strategy. However, Newell and Rice (1999) argued that recruitment issues whether internal or external lies at the very centre of human resource practices in organizations where appointment decisions are crucial to employers. They argued that recruitment is typically the responsibility of the HR manager and various sectional heads of the organization have important role to play in the recruitment process. In addition, the future success of the hotel organizations is predominantly based on identification and attraction of quality employees. Besides, hotel organizations need to respond to rapidly changing global business environment because the success and the development of tourism and the hospitality sector is dependent on attracting and retaining high-quality individuals who can respond effectively to the changing environment, rendering quality service for the sustenance of tourism development in countries at both national and regional levels. The fact is if unskilled staffs are hired to work in the various sectors of the hotel industry they may become liability to an extent rather than an asset. There is therefore the need to hire best people for any kind of organization who can perform as well as sustained the developmental goals of the organization. Moreover, the best way to achieve this is to recruit qualified candidates to fill appropriate positions in organizations considering their psycho-social differences that are crucial in relation to organizational performance thus differences in terms of abilities, personality, motivation and emotions that influences how people behave and cope with the demands of a particular jobs. However, there various recruitment methods but each of them is associated with challenges Czerny (2004).

RESEARCH METHODOLOGY

The research used mixed-methodology approach via administering survey questionnaire and semi-structured random interviews supplemented by secondary data and policy document on recruitment in Ghana. The selected hotels were visited and interview sessions were arranged with HR managers, hotel owners and other line managers to collect opinions on recruitment issues. The questionnaire and interview questions were designed to test various propositions derived from the recruitment literature adopted from previous researchers (Armstrong et al;1994). These authors were the gurus in the field of HRM and they are widely cited. Question was on recruitment practices, policies, and its integration into the overall organizational policies. Through the interview, other issues were discovered. The survey questionnaires were administered to employees in the selected hotels. Data was analysed, results and discussion are presented below:

RESULTS AND DISCUSSION

Insert figure 1

The above graph shows who was in-charge of recruitment. From the graph above it was revealed that a little above 70% shows that hotel owners were responsible for recruitment activities in their various organizations. About 18% responded that recruitment activities were handled by human resource departments especially in the medium hotels.

Insert figure 2

This study also attempts finding out the main reasons that necessitate the hotel organizations to undertake recruitment exercise. It was observed from the above chart that 68.8% of the time the major reasons for employee recruitment has been identified as talent development. About 28.4% of the respondents argued

that succession planning was some of the reasons that necessitate recruitment in the organizations while only 2.8% of the respondents also argued recruiting was based on attracting new employees or potential planned development.

Insert figure 3

On the issue of the type of recruitment plan both small and medium adopt, it was revealed from the table above that, Ad- hoc type of recruitment was dominant in small hotels and some of the medium hotels with 70.4 %. Moreover, only 29.6% argued that recruitment issues were planned in some of the selected medium hotels.

Insert table 1

The above shows the mode of recruiting employees into small and medium hotels. From the table employment exchange was rated 90.2% as a mode of recruitment, which has never been used in recruiting process in the hotel industry of Ghana. This is supported by the mean response value of 1.06, which is indicative that a lot of 1's (never) has been recorded. In addition recommendation from professional conferences as a mode of recruiting in hotels has never been used with 86.0%. However, recommendations from past employees, trusted people and current employees recorded percentages of 59.8, 76.4 and 87.6 respectively showing that these modes were sometimes used in both small and medium hotels. This is also supported by the mean values of 1.78, 1.80 and 1.95 respectively reflecting that a lot of 2's (sometimes) has been recorded.

On the issue of using employment agencies as a mode of recruiting, it is also clear that both private placement agencies and the government employment services has never been used as a mode of recruitment with indication 83.6 and 95.0

respectively with low mean values of 1.14 and 1.04.

Furthermore, other important modes of recruitment such as unsolicited applications, direct recruitment and transfers were indicated to be used sometimes with high percentages of above 50% and high mean values. Other recruitment modes like media adverts and promotions were also not used regularly. This implies that internal recruitment practices are highly followed in the selected hotels.

Insert table 2

The table above shows the distribution of the responses on the effectiveness of the recruitment modes. From the table it was clear that employment exchange, as a mode of recruitment was not effective. This might be true since the earlier submissions have strongly stated that this mode was never used. Also 61.80 % of the responses demonstrated recommendations from professional conferences were also not effectively used.

Furthermore, very low percentage responses recorded under the scales (effective and very effective) which were less than half of the response rates depicted that all the modes of recruitment were not effectively used.

Insert figure 4

On the issue of value placed on advertising media as a means of recruiting employees in the hotels organizations. From the diagram above, very high responses, 70% were recorded depicting the fact that advertising media has never been used as medium of recruitment in the small and medium hotels. However, there were some slight indications of responses above 20% revealing that media advertising modes such as internet, trade publications and magazines, TVs were

used in some of the selected medium hotels. There is high concentration on internal recruitment practices in the selected hotels.

Insert table 2

On the effectiveness of the use of the advertising media in recruiting employees. The table above seems to be coinciding with the discussions made about the previous diagram that advertising were not employed in recruiting employees; coincidentally they were also not effectively used.

Insert figure 5

The diagram above shows that employee turnover in medium hotels is low supported by the percentage of 67.6% (32% + 35.6%) of the response rate. Only few less than 30% of the responses show that some employees in medium hotels do often quit their jobs but turnover rate very high in small hotels.

Insert table 3

The table above outlines the reasons why some of the employees leave the hotels. Reasons such as low levels of payment and further studies were highly attached some importance with percentages of 41.6% and 26.8%. Other important reasons were inappropriate managerial policies, lack of motivation, poor conditions of service and self-establishment with the least being non-payment of allowances.

Insert table 4

From the table above "binomial test" was conducted to determine the significant difference between the YES and the NO responses provided by respondents as to whether their hotels have human resource departments. Four hundred and twenty seven (427) representing a proportion of 0.85 of the response rate shows that human resource

department do not exist in their hotels. This is significantly supported by the significant value of 0.00 which is less than 0.05 which allows inferring confidentiality that there exists a difference between the yes and no responses hence the earlier statement (human resource departments does not exist) holds. In addition, the lower half of the table shows that 339 of the respondents accepted that the HR department would have been relevant as also significantly supported by the value of 0.00 depicting a significant difference in the responses provided. Precisely human resource department were perceived by respondents to be relevant to the hotels though majority of the hotels do not have the HR department.

Insert table 5

Insert table 6

The regressions analysis above examines the influences effective recruitment practices in the hotel industry would have on the performance of the hotel organizations. The organizational performance is the dependent variable while recruitment practices are the independent variables.

From the summary table, the R-square value of 0.15 shows that only 15% of the variation is organizational performance accounted for or explained by the variation in the recruitment practices. This shows that the remaining 85% of the recruitment practices mentioned above do not affect organizational performance. At 95% confidence level, the regression analysis above also appears to be significant at a p-value of 0.00 as observed above from the Anova table, therefore the null hypothesis is rejected. It is thus concluded that there is a relationship between hotel performance and recruitment practices. Precisely, a good recruitment practice would lead to a good performance among employees but the

relation with best practices in the hotel industry in Ghana seems to be very weak (15%).

The (coefficients) also present the explanation of the influences that each of the recruitment practices has on the hotel performance. The constant value of 0.87 is the estimated amount of hotel performance and recruitment practices are not in existence, which seems to be somehow significant at a p-value of 0.04. Recruitment practices such as employment exchange, recommendation from current employees, media adverts and promotions with positive coefficients has no significance influences on hotel performance and were not to be effectively practiced.

In addition, recruitment practices like recommendations from professional conferences and direct recruitment with coefficients of 0.83 and 0.49 respectively seems to have a significant influence at p-value of 0.00 on hotel performance. Other recruitment practices such as recommendations from past employees, recommendations from trusted people, private placement agencies, government placement services, unsolicited applications and transfers appears to have a negative influence on the hotel performance even though some of them were found to be insignificant.

One would conclude that out of the 12 recruitment practices used in the study only 5(recommendations from professional associates/conferences, direct recruitment/campus, recommendations from past employees, recommendations from trusted people and transfers) seems to have significant influence on the hotel performance with the last three having a negative influence since they were not extensively practice. Further, findings from interviews were presented below:

INTERVIEW FINDINGS FROM SMALL AND MEDIUM HOTELS

On the issue of recruitment practices in medium hotels based on the interview with managers it was revealed that, employees were recruited to perform jobs in the various departments in the selected hotels across the regions of Ghana ranging from front office, food and beverage services, maintenance, kitchen and back of the house etc. On the recruitment practices, every department will do their own work force requirement. However, in some instances human resource managers and the hotel manager are responsible for the overall planning of work force with inputs from the respective departments. According to the HR managers work force planning was a continuous process in all the selected medium hotels.. They also embarked on internal recruitment as means of promotion of employees before considering outsiders. Few hotels with the HR department also stated that they are responsible for advertisement and announcement of vacancies and the short listing of candidates. On the issue of any recruitment policy in medium hotels, they normally stress on the suitability of candidate. They give priorities to candidates with the required skills or internal transfer of employees depending on where it is much needed before considering advertising in newspapers. However, the trend is different in small hotels; there is total absence of HR department so the line managers and hotel owners are in charge of recruitment normally the focus is on internal transfer. Recruitment issues are really ad-hoc. The hotel owners will decide whether there is a need to recruit or not. For much higher position, the hotels managers are involved in small hotels. Recruitment issue are not very critical because they are just

unskilled workers and will be trained them. (Response from Hotel owner).

CONCLUSION, RECOMMENDATIONS AND LIMITATION

The study examined recruitment and performance issues in selected small and medium hotels in two regions of Ghana. The study considered one of the major functions of the human resources management practices followed by the various selected small and medium hotels in Ghana.

The questionnaire and interview finding shows that generally human resource department was absent in most of the selected hotels with the exception of few. HR manager with the assistance of line managers facilitate recruitment issues in medium hotels and it have significant influence on employees' performance. However, in the selected small hotels, hotel owners were responsible for recruitment issues and done in an ad-hoc manner. Thus small hotel enterprises in Ghana are facing high employee turnover because of unattractive and ineffective recruitment process which could bring long term implications on the future of these categories of hotels in Ghana though they are highly patronised by tourists.

Secondly, in medium hotels emphasis on the employees organizational fit is very crucial. The screening of potential applicants will ensure that the successful candidates will be able to adapt to the hotels culture. Aside other factors, HR manager and line managers in all the medium hotels believe that service quality and hotel performance cannot be achieved without the right workforce. To ensure effectiveness of their recruitment activities, their HR managers work closely with line managers taking into consideration applicant's trainability, required skills and competencies. In the selected small hotels, the story is different. Recruitment activities

are in the hand of the hotel owners much attention are not given to the skills acquired by the employee. Nevertheless, the findings have shown that the approach to recruitment practices would definitely contribute to the overall performance of hotel organizations. Comparatively, there is much more to be desired in terms of recruitment activities in both small and medium hotels.

Therefore, the study recommended the following: Hotel proprietors and other managers to ensure effective and fair recruitment process. The general absence of human resource department in hotels poses much more danger to recruitment activities. Thus, the need for funds to train people to understand the criticality of implementing HR related issues in the hotels and especially HR department be established and internal recruitment policies should be minimal because it prevents infusion of new ideas from outsiders.

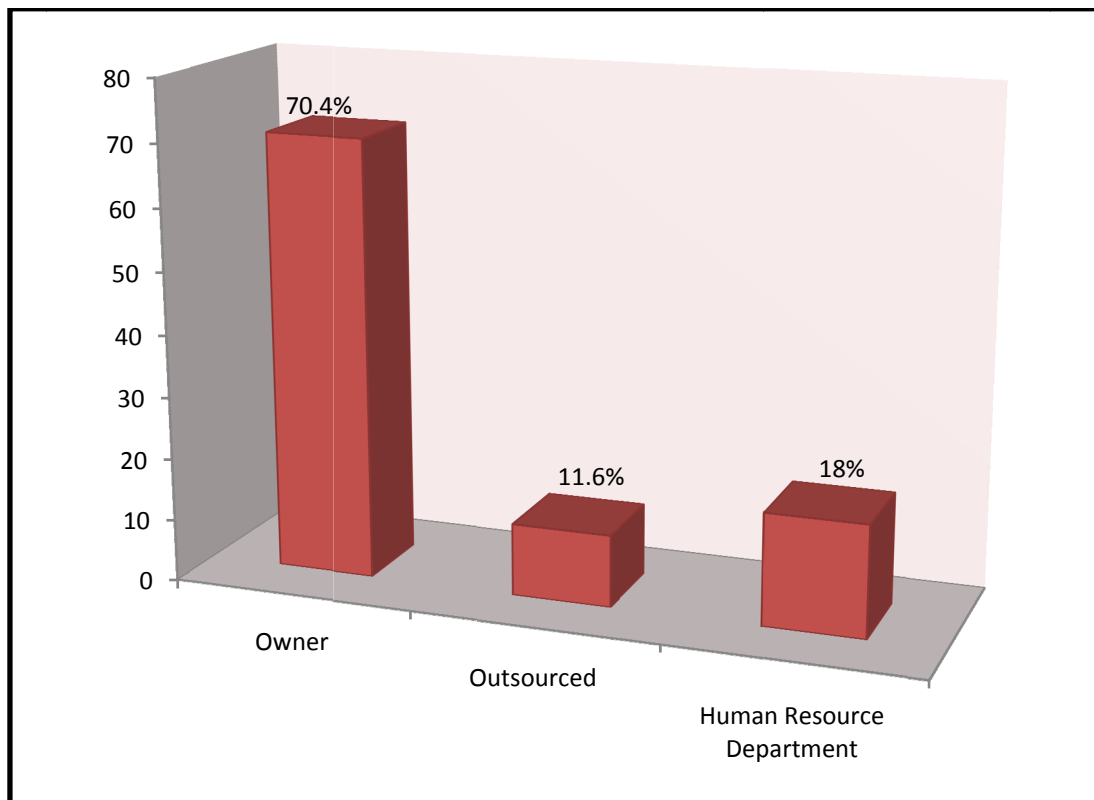
Proper feedback system may be introduced in the recruitment process and a periodic review of the improvement be carried out. Significantly, this study can be used as a base for a more comprehensive study in other regional capitals in Ghana and for further international studies.

To conclude this study adapted mixed-methodology design of qualitative and quantitative approaches, it is however liable to some potential weaknesses. Among the limitations of this study were on the issue of bias, the relatively short period to objectively analyze performance and the focus of this paper that only examined one key HRM functions. Hence, the findings should be treated with carefulness.

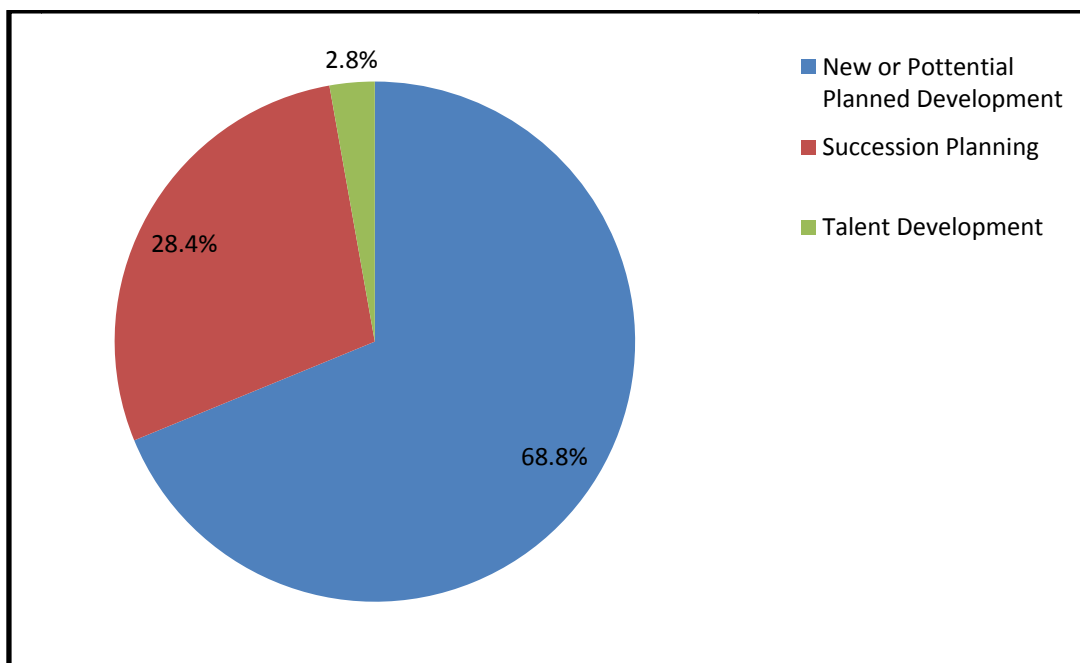
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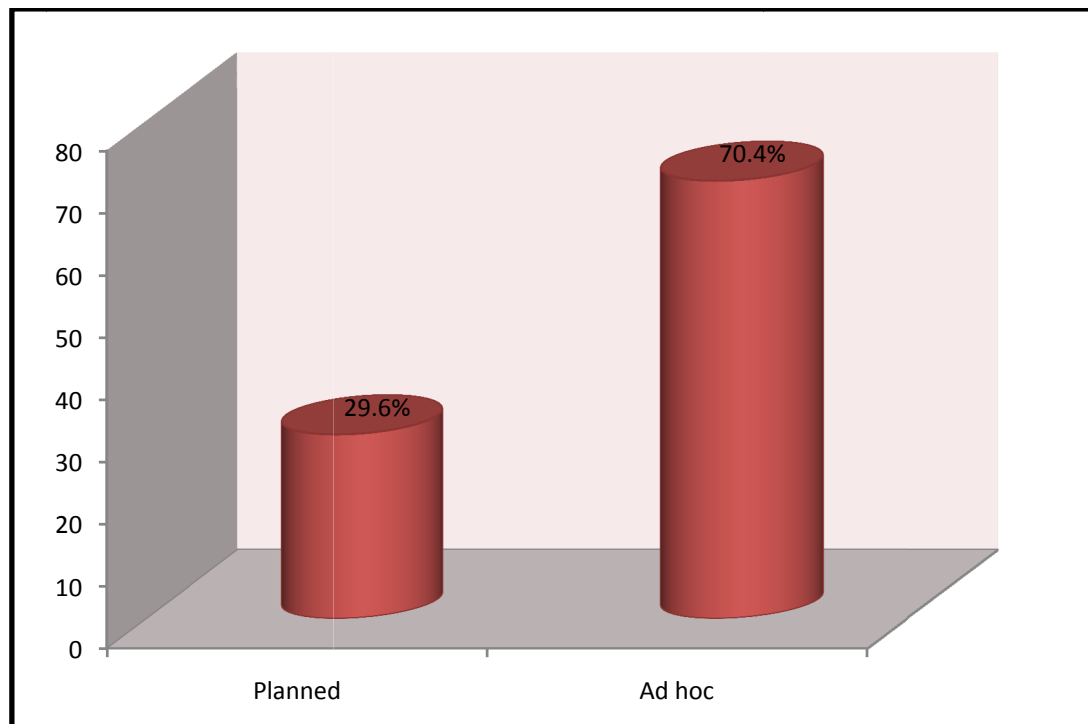
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Figure - 1**Personnel's in-Charge of Recruitment and medium and small hotel**

Source: Field Survey, 2013

Figure - 2**Reasons that Necessitate Recruitment practices in small and medium hotels**

Source: Field Survey, 2013

Figure - 3**Types of Recruitment Plan in small and medium hotels**

Source: Field Survey, 2013

Table - 1**Modes of Recruiting Employees in Small and Medium Hotels**

Mode of Recruitment	Never (%)	Sometimes (%)	Always (%)	Mean Response
*Employment Exchange	90.2	5.6	4.2	1.06
*Reference Recommendations from				
<i>i. Professional Conference</i>	86.0	12.4	1.6	1.11
<i>ii. Post Employees</i>	40.2	59.8	0.0	1.78
<i>iii. Trusted People</i>	23.0	76.4	0.6	1.80
<i>iv. Current Employees</i>	11.2	87.6	1.2	1.95
*Employment Agencies				
<i>i. Private Placement Agencies</i>	83.6	14.4	2.0	1.14
<i>ii. Government Employment Service</i>	95.0	5.0	0.0	1.04
*Unsolicited Applications	10.0	83.0	7.0	1.99
*Direct Recruitment	36.0	63.8	0.2	1.86
*Media Adverts	81.2	18.0	0.8	1.22
*Promotions	78.4	19.4	2.2	1.20
*Transfers	14.4	84.6	1.0	1.92

Source: Field Survey, 2013

Table - 2

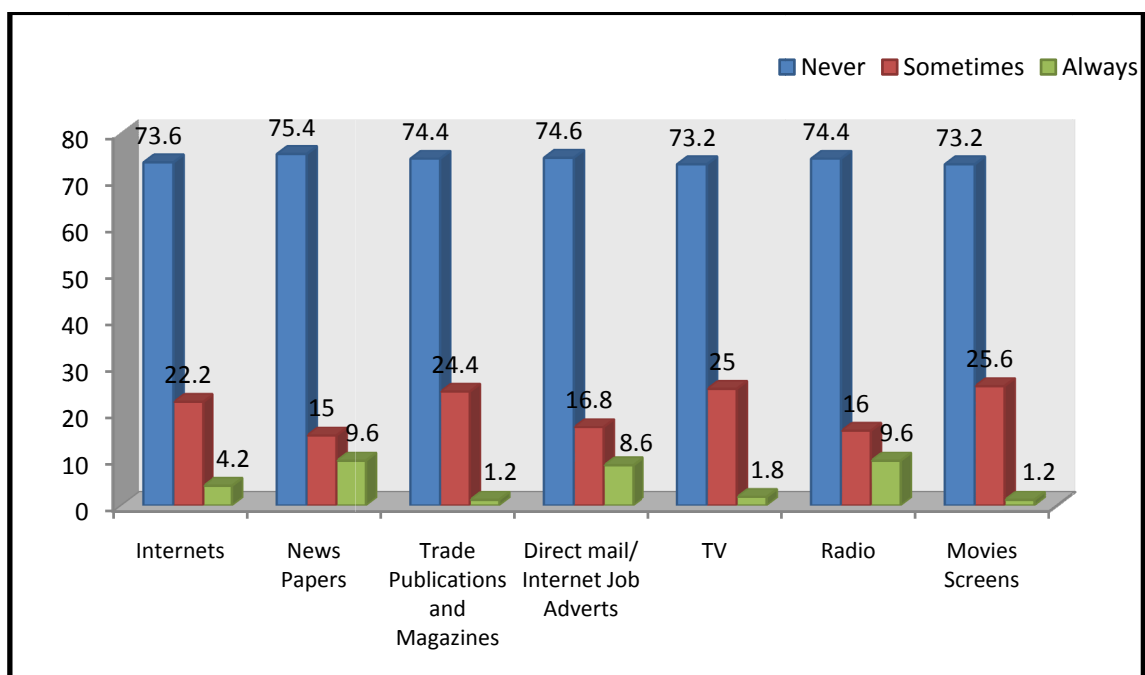
Effectiveness of Employee's Recruitment Modes in Small and Medium Hotels

	Not Very Effect (%)	Not Effective (%)	Neutral (%)	Effective (%)	Very Effective (%)
*Employment Exchange	21.60	39.40	35.80	0.40	2.80
*Reference Recommendations from					
<i>i. Professional Conference</i>	3.60	28.40	61.80	2.20	4.00
<i>ii. Post Employees</i>	11.40	19.80	26.00	37.60	5.20
<i>iii. Trusted People</i>	13.80	38.80	32.80	9.80	4.80
<i>iv. Current Employees</i>	38.80	12.00	29.60	10.80	8.80
*Employment Agencies					
<i>i. Private Placement Agencies</i>	11.80	11.60	69.60	4.40	2.60
<i>ii. Government Employment Service</i>	9.60	16.40	70.80	1.20	2.00
*Unsolicited Applications	48.00	3.00	21.40	26.20	1.40
*Direct Recruitment	10.80	10.80	68.80	7.60	2.00
*Media Adverts	7.20	33.80	48.20	7.80	3.00
*Promotions	4.40	66.60	15.00	8.00	6.00
*Transfers	3.00	69.80	5.60	16.60	8.00

Source: Field Survey, 2013

Figure - 4

The Use of Adverts in Recruiting Employees in Small and Medium Hotels

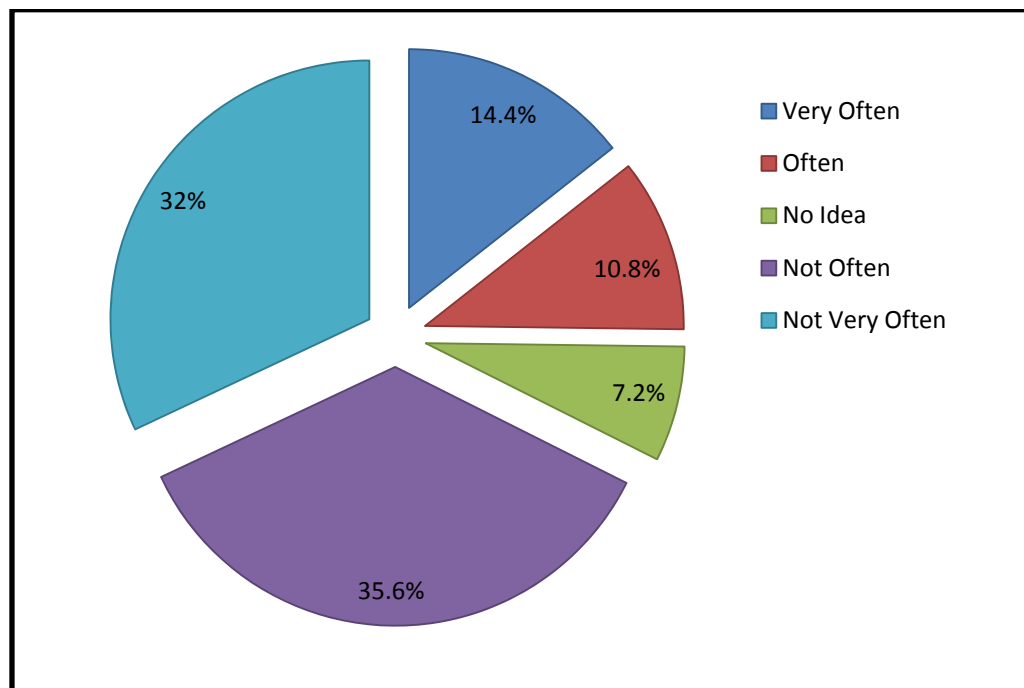


Source: Field Survey, 2013

Table - 2**The Effectiveness of the Use of Media Advertising in Small and Medium Hotels**

Advertising Media	Not Very Effect (%)	Not Effective (%)	Neutral (%)	Effective (%)	Very Effective (%)
Internets	73.2	3.8	11.8	7.0	4.2
News Papers	75.4	3.6	9.4	3.4	8.2
Trade Publications and Magazines	74.8	4.8	17.4	3.0	0.0
Direct mail/ Internet Job Adverts	74.4	1.4	13.2	6.2	4.8
TV	73.2	4.0	12.4	10.4	0.0
Radio	73.2	3.8	8.8	9.2	5.0
Movies Screens	73.6	8.0	13.6	4.8	0.0

Source: Field Survey, 2013

Figure - 5**Employee turnover Small and Medium Hotels**

Source: Field Survey, 2013

Table - 3**Reasons Employees leave Small and Medium Hotels**

Reasons	Frequency	Percent
Further studies	134	26.8
Inappropriate management policies	14	2.8
Lack of motivation	75	15
Low payment	208	41.6
Non-payment of allowances	6	1.2
Poor conditions of service	54	10.8
Self-establishment	9	1.8
Total	500	100

Source: Field Survey, 2013

Table 4**Binomial Test on the Existence of Human Resource Department and its Relevance in the selected Small and Medium Hotels**

	Category	N	Observed Prop.	Test Prop.	Asymp. Sig. (2-Tailed)
Organization have Human Resource Department	No	427	0.85	0.5	0.00
	Yes	73	0.15		
		500	1.00		
Human Resource Department is relevant in the organization	No	88	0.21	0.5	0.00
	Yes	339	0.79		
		427	1.00		

Source: Field Survey, 2013

Table - 5**Relationship between Effective Recruitment Practices and Hotel Performance**

Summary Table					
R	R Square	Adjusted R Square	Std. Error of the Estimate		
0.38	0.15	0.13	1.29		
ANOVA					
	Sum of Squares	df	Mean Square	F	Sig.
Regression	139.48	12.00	11.62	6.98	0.00
Residual	811.18	487.00	1.67		
Total	950.66	499.00			

Table - 6**Coefficients**

	coefficients	Std. Error	t stat	p-value
(Constant)	0.87	0.41	2.09	0.04
Employment exchange	0.17	0.08	1.99	0.05
Professional conference	0.83	0.14	5.80	0.00
Post employees	-0.50	0.09	-5.32	0.00
Trusted people	-0.21	0.09	-2.24	0.03
Current employees	0.17	0.10	1.75	0.08
Private placement agencies	-0.23	0.12	-1.92	0.06
Government employment service	-0.02	0.12	-0.17	0.87
Unsolicited applications	-0.02	0.07	-0.25	0.80
Direct recruitment	0.49	0.14	3.54	0.00
Media adverts	0.22	0.15	1.51	0.13
Promotions	0.08	0.13	0.60	0.55
Transfers	-0.19	0.08	-2.23	0.03

Source: field survey, 2013

Co-Creating Value Based on Interaction and Communication

Dr. Sławomir Czarniewski
University of Finance and Management in Białystok
Ul. Ciepła 40
15-472 Białystok, Poland

Abstract

The purpose of this work is to show mechanisms of co-creating value based on interaction and communication. The pace of economic transformation and growing competition in the market means that companies are somehow forced to take new measures to improve the effectiveness of communication with their market environment. The focus of this study are the economic mechanisms of the effectiveness and efficiency of the process of communicating specified value to the customer, and an attempt to identify the factors boosting efficiency increase. This analysis was carried out on selected Polish customers in 2012. The paper shows also own research based on surveys conducted among enterprises in Poland in 2011. Reflections contained in the paper do not have definite characteristics and should be treated as an opinion in the discussion.

Keywords: *knowledge, competition, communicating value, globalization.*

INTRODUCTION

The communications market is constantly developing. Advertisers are looking for new, more effective ways of influencing consumers. This means transmitting messages that stand out from the hundreds of others, reaching a customer and provoking him to make a purchase. The creation and emission of such messages promote progress in telecommunications, television, radio, printing technology, and other related areas.

Knowledge of new trends and developments in the business of communications is important both for companies wishing to promote themselves, as well as for the creators and producers of advertising. Through it, both groups gain a competitive edge in the market. Advertisers armed with new, unconventional messages and ways of emitting them can effectively interact with an ever-increasing number of consumers. The creators and producers of

advertisements offer clients richer, more technologically advanced solutions to strengthen their market positions and increase sales.

There is often a large amount of information directed at the consumer to influence their opinion. They can take the form of logical arguments or video presentations, pressure from peers or suggestions by celebrities. What's most important is that this type of communication is two-way, and often it is the consumer that is looking for sources of information to familiarize themselves with all options available. Consumers often decide under what conditions they want to get acquainted with the advertisement, which forces companies to change their way of thinking when attempting to influence recipients.

RESEARCH METHODOLOGY

A method used in this paper was descriptive analysis based on extensive study of subject literature. Polish and

foreign, mainly English-language, literature on economic issues connected with communicating customer value were used to support the theoretical part of the work. The use of foreign literature proved to be necessary because of insufficient Polish studies. This enriched the arguments and discussion of new aspects, and helped reveal the research problem in a broader perspective.

Paper contains confrontation of theory and practice - an analysis of mechanisms of co-creating customer value based on interaction and communication. Empirical studies were conducted among enterprises in 2011 on a sample of 17 companies in Poland. This analysis was also carried out on selected Polish customers in 2012.

Empirical considerations were based on studies conducted at foreign institutions as well as the author's own research. Analysis of the results of research carried out by foreign entities was conducted to provide information as to the overall development of business communication systems with the market. The author's own research should expand the knowledge available on aspects relating to the effectiveness and efficiency of the process of communicating customer value and should be a starting point for broader comparisons and conclusions.

THE NEW CHALLENGES IN COMMUNICATION

An important type of project that uses the idea of co-creation of values is a service whose essence is interaction and communication. Within the framework of these projects, an appropriate type of knowledge is used.

Know-what knowledge, enriched by a certain element of subjectivity, often falls into this category, which features, among others, views and preferences of the author. Subjectivity results from the

evaluation of information on the basis of the opinions of others or their own experience. Creating *know-what* knowledge by users is the essence of Wikipedia. The aim of that project is for its creators to publish factual and objective information. Others use subjective *know-what* knowledge to show certain views and preferences. Websites such as Digg.com or Wykop.pl use *know-what* knowledge for displaying links to sites that their users rank in terms of interest.

Subjective *know-what* is the essence of services such as social shopping sites, which are a combination of social networking and information agencies. The basic functions of such services include aggregating users' reviews and ratings of products, and matching products based on the information from users to facilitate purchases by displaying a list of stores offering the product. It is worth noting that although the concept of social shopping has become popular in recent years, this idea has been used for a long time. An example might be the online store Amazon.com, which has used the subjective knowledge of their customers in the form of reviews and comments since 1995 (Ante, 2009, p. 47-48).

There are also more advanced models which use subjective knowledge of the nature of *know-what*. These include market forecasting (prediction markets), the essence of which is the making of transactions based on the likelihood of future events. Market participants bet on the result of a specific event in the future. Economic (e.g., the value of the stock index) or political (e.g. winning party in the election) events are usually the subjects of such bets. Users are rewarded for correct answers in a manner dependent on the specifics of the service (e.g. they receive a number of points), while in the case of incorrect predictions, suffer the

consequences (e.g., they lose points). The aim of this type of market activity is to indicate the probability of a future event ending in a specific manner. The effectiveness of this type of market, namely its ability to make accurate predictions, is the subject of many studies, often using complex econometric models (Wolfers & Zitzewitz, 2013).

Many internet ventures are based on the utilization of multiple types of user knowledge.

These include services that allow the publication of content and exchange of opinions (blogs, forums) or other types of platforms where communication is based on answering questions.

Interesting examples of a venture using know-how are ideagoras. This is sometimes referred to as markets of ideas, innovation and people with exceptional qualifications. A frequently cited example is the ideagora project InnoCentive, which connects companies willing to pay for finding solutions to their problems with specialists who undertake to find a solution. Companies can exploit the potential of the global scientific community without having to hire anyone (Tapscott & Williams, 2008, pp. 146-147).

Know-who is the acquaintance of people with knowledge, skills and abilities in a given field. This is the kind of knowledge that is usually acquired by being a member of a community with a specific profile. Acquaintances of this type, that is, a network of people in a selected community using social networking, allows for communication with people brought together around a certain topic. Members bring their own groups of colleagues to the social network (a so-called social graph), and they can also get to know new people. These sites use various mechanisms, such as discussion forums, to exploit other types of knowledge. However, the aggregate

capital of know-who, in the form of a network of people, translated into the number of users, decides the superiority of one service over another (Doligalski, 2010, pp. 7-11).

The traditional model of communication was developed in the image of mass communication, which consisted of information being provided by the producer (source) to multiple consumers (customers) at the same time – the media used for this purpose was television, newspapers or radio. Based on this assumption, we can consider advertising as a means of communicating certain information to buyers before they are to make a purchase. The message is therefore something impermanent, repetitive (sometimes quite often) for a relatively short period of time, which then disappears and is replaced by a new advertising campaign.

In the opinion of consumers surveyed, companies (brands, products) which advertise widely are considered more prestigious (Table 1.). So say more than 45% of consumers surveyed.

An important trend changing the lifestyle of the modern consumer is the focus on health. It has become fashionable to conduct a so-called healthy lifestyle, which means a proper diet and physical activity. All this to stay young and physically and mentally fit for as long as possible (the majority of communication messages are addressed to young people). Focusing on consumer health and beauty can mean huge opportunities for cosmetic and pharmaceutical companies (Sobolewska, 2009, p. 45).

An important issue in terms of the effectiveness of marketing communication is the problem of the form of communication, or the techniques used in presenting the advertised content. The results of research on firms in 2009

confirms the tendency for companies to rationalize their communication messages - more than half used a static demonstration of the product, situated in the place where it is used or with a neutral background, rather than showing the product in use. In nearly 37% of companies, messages are based on techniques reflecting a rational justification for the purchase of the product; these are usually arguments of an economic nature (low price, convenient payment terms, ease of purchase, saving of time, etc.). These two techniques categorically stand out from the rest (Figure 1.).

The results indicate that some techniques, to a large extent, are not used. Attention should be paid to the undervalue of humor-based messages; this technique is used by only every tenth company (despite the belief of managers in the strength of the impact of such messages in the context of enjoyment and acceptance by the public).

The hierarchy of techniques recognized as the most effective in practice reflects those based on the frequency of use. Static demonstration strongly dominates, ahead of the presentation of rational reason to encourage a purchase (36,5% and 19,1% of responses respectively). Minor differences occur among the lower ranked techniques, with the differences in percentage negligible, partly due to the fact that they record about 3-4% of responses.

It seems that the system of market communication in Poland is now in many respects similar to the systems operating in other countries, especially in the use of proper forms and instruments to communicate customer value. The opinions of managers of surveyed companies, comparing Polish market communication with foreign companies, are presented in Table 2.

The results indicate that the level of market communication of Polish companies is comparable with the level of communication in foreign companies - such an opinion was expressed by 47,1% of managers of surveyed companies. The percentage of companies surveyed that differed in opinion, believing that marketing communication of Polish companies is worse than the communication of foreign companies - was only 23,5%. These studies indicate that there are no major differences in quality between the communication systems used by Polish and foreign companies.

THE INTERNET AND THE EFFECTS OF COMMUNICATING VALUE

Before the Internet, if a consumer wanted to get in touch with the manufacturer, order a service, or ask for details, he had to get the physical address of the company. Today, more and more consumers can make contact with the company not by visiting or calling their office, but by looking at their website on the Internet (from home, for example).

The use of modern information technology enables interaction among customers, replacing the one-way monologue of the company, addressed to the whole or part of the market, with a dialogue between the company and the customer, and customers among themselves. The possibility of customer interaction also affects the co-creation of customer value, or active involvement in the process of value composition (Currie, 2004, pp. 15-26). The determinant of the utility of the interaction in relationships with business partners is the degree of integration between the customer and company, as well as with other customers.

Market communication on the Internet aims to invite consumers to the company - to their "virtual home". The communication system catches the

attention of consumers - with the hope that they will remember the company or brand name when searching for products they need.

Not every consumer wants to have contact with every type of product. Many products are bought by consumers with a low level of interest, so consumers probably do not remember about them while searching the web. However, if the consumer is not satisfied with the product, then the probability of using the Internet to contact the manufacturer grows rapidly.

The primary purpose of creating an online business website is to provide a tool for dialogue with the consumer. Another objective is to present the company. In general, for the site to attract many Internet users, and for people to pay attention to a company, there is a need for intensive advertising of their web address in traditional media, advertising on the web in the form of banners, or placing advertisements on the websites of other companies.

As part of the communication of values to customers on the Internet, there are two types of activities: push and pull. The push strategy is the concept of a direct action encouraging potential customers to buy the product or change their perception of the company. The pull strategy defines the concept in which customers take action to initiate a relationship with the company (Kumar & Shah, 2004, pp. 28-33).

Push campaigns utilize forms of advertising which allow for the enrichment of the message through animation, multimedia and interactive elements. The increased use of multimedia elements sometimes increases inconvenient for the recipient, causing longer loading time, or a lack of access to the content at the time of the emission of the advertisement. A study conducted by McCoy et al. shows that the emission of intrusive advertising reduces

the desire to return to the page, and reduces the likelihood of a recommendation of the page. The results are consistent with the observation that the interruption of targeted actions can cause a negative emotional response (McCoy, Everard, Polak & Galletta, 2007, pp. 84-87).

Pull campaigns aim to have the recipient react in some way, which may be by making a purchase, registering with the website or contacting the company. The amount of content in the communication is usually modest, and depicts benefits to the recipient, encouraging him to go to the web page, rather than having elements that build the company's image. In pull campaigns, going to the advertiser's website is essential for the continuation of the purchasing process.

Values that are difficult to communicate through the Internet are that of prestige and luxury. Services or products available online are usually democratized, so there is limited availability of typically prestigious and luxurious goods. In particular, this applies to information provided in the context of market communication, where access is usually free, and in return, the company is allowed to present a communication message. There are no limitations in the form of high fees. Although it is possible to sell luxury goods on the Internet, companies of luxury brands are wary of this type of activity (Okonkwo, 2009, pp. 302-310). Products or services related to the Internet are mostly utilitarian, the exact opposite of luxury goods, which provide greater value at a much higher price.

Developing relationships on the Internet causes a lack of direct contact with customers. Customers are often a source of knowledge about needs and experiences with a product or service, whose advice is often a prerequisite for

innovation and increasing customer value. One solution may be to use social media to engage in dialogue with the customer. Media can be used to conduct a dialogue with customers, including listening to customers, responding to their objections and solving their problems. Research shows that media is also used to remain in close relationships with customers and shape their behavior, particularly in terms of loyalty (eMarketer, 2013).

Using the Internet to develop relationships with customers makes customer differentiation become more visible. Customers, apart from the acquisition of products, can also place online product reviews, promote the company, and provide positive feedback. These behaviors can occur outside the Internet, but in a medium of this type, these actions are more visible because of the greater range and longer time horizon of the impact of published content.

Internet companies often act as intermediaries between two complementary groups of customers (i.e. Internet auctions, classifieds). The success of the venture depends on maintaining a balance between these two groups. This results in the necessity of the application of the portfolio approach, involving the deliberate selection of customers from different groups and for the subsequent development of relationships with them. Mechanisms by which the company interacts with customers of a given group include customer value and its components, one of which is price.

A factor increasing the rationality of the use of customer value management, with particular emphasis on the measurement of customer value, is the bargaining power of customers (Boyd, Chandy & Cunha Jr, 2010, pp. 1162-1168). It may result in the provision by the company of additional, often unjustified

economically, value to the client, which may lead to a reduction in profitability. Measuring the effectiveness of an action, in the framework of the relationship with the client, may be a prerequisite to changing the strategy of offering the customer value, and, in some cases, may cause the termination of the relationship with him.

The internet increases the bargaining power of customers. Customers may - in the case of adverse developments in the relationship with the company - publish a negative opinion about the company, leading to a decrease in the reputation of the company. Dissatisfied customers can also take joint action, thereby exerting more pressure on the company. At the same time the bargaining power of individual clients in Internet companies is relatively small. It should be noted that customers of online businesses are usually not in a position to demand additional benefits, as is sometimes the case in direct relationships with a traditional service company.

Trade information on the Internet can be complex and complicated, as customers/ Internet users are not willing to become familiar with long textual descriptions. This observation is confirmed by studies of computer users conducted by IBM. The paradox of the active user (Fu & Gray, 2004, 901-935; Nielsen, 2012) was formulated by this study, where it was shown that new users do not read the instructions of products, but rather try to configure the product themselves, causing them to spend more time on configuration than they would have needed if they had read the instructions. Therefore, as postulated by Nielsen, products should not be created for a perfectly rational user, but must take into account the natural ways of behavior in a given situation. The online incorporation of information in an interactive and multimedia message can

provide a more efficient method of communication than long textual descriptions.

Compared with the traditional economy, the value of security has increased significantly due to the fact that consumers associate the internet with greater risk (Schlosser, White & Lloyd, 2006, pp. 133-148). Internet solutions, such as credit card payments, are not necessarily less secure than payments made outside of the Internet; however, they tend to be considered more risky. The value of security, which means minimizing actual and perceived customer risk, has thus become another category of value that companies should take into account when designing the composition of values offered. The purpose of the system of communication could be to present these values in the context of security when encouraging customers to make payments by credit card.

Companies may offer customers free content (articles, audio, video) or services (email, searching for content, publishing content) as part of a broader system of communication. Customers are recipients of the communications emitted by the company, thereby increasing value for a second group of customers, the advertisers. This model is common on the Internet and is used by entities that publish content (e.g. Internet editions of newspapers), pages which enable others to publish content (e.g. youtube.com) and search engines (google.com).

It should be noted that the role of communication increases with the use of modern technologies, due to the following circumstances. The lack of direct contact between the client and the company results in the need for intensive communication between them. Compared with the traditional model of communication, the role of the customer

increases here. The value of communication is not only the bilateral exchange of meanings between the customer and the employee of the company (Andrew, Sen & Shao, 2006, pp. 789-802). Communication becomes three-way, because the client communicates with other clients (users), which can significantly influence purchasing decisions. However, the capability to quickly update information is accompanied with customer expectations that the information obtained be not obsolete. Just like in the traditional economy, in addition to the information function of communication, it can also be used to educate customers (Doligalski, 2013, pp. 62-63).

The role of trust is growing, which is associated with the increased risk perceived by customers. Its high level is characteristic not only for beginners but also for experienced web surfers (Forsythe, Liu & Shanno, 2006, pp. 72-75). The messages located on websites and other communication instruments should therefore strongly exhibit symbols of trust-signals that contribute to the gaining of trust among customers.

Increasingly, we have to deal with the Internet of things (the Internet of everything). The essence of this phenomenon is that everyday objects are connected to the Internet, even though they are often unrelated to computers (Fleisch, 2012). These devices communicate with each other using radio wave technology (e.g. using standard NFC communication over a short distance using radio waves and / or RFID tags). Fleisch gives the main areas where Internet may be used. This occurs in the identification of the location of objects; transmission of data about temperature, lighting, humidity, vibration, location, and movement of objects; transferring information (such as tire pressure); adding content and

meaning, all of which, in an advanced form, can lead to the creation of a virtual, interactive environment.

CONCLUSION

The communication process brings tangible value and benefits to consumers. There is a decrease in the distance between the seller and the buyer. In addition, it shortens the decision-making process for the purchase of a specific product, as the consumer knows what he needs. The level of education in society about changes in the products on offer, prices, new trends, etc. also improves.

Marketing communication can influence the decision to purchase a given product or be loyal to a particular brand, but the effect does not need to emerge during the advertising campaign. Often the effects are deferred and appear only during the use of other marketing activities such as the provision of samples, postal advertising, price cuts and the presentation of a given product.

Probably no area of the marketing activities of an organization has undergone so many changes in recent years as communication. These changes relate to - first of all - the fragmentation of traditional media (the appearance of satellite TV, digital channels targeted to a small group of people) and the emergence of new forms of communication.

As the experience of many international companies show, only properly prepared, efficiently integrated systems of communicating customer value allow for companies to stay in business and to raise funds for further development. It should also be noted that integrated marketing communication means conducting all business communication activities in a consistent way connected with one another. Its main principle is mutually supported messages appearing in various media and creating a single image

of the company and its products to customers. The result of such an approach to communication is a company's growth in quality and efficiency.

In the current economic reality, the survival and development of enterprises depends on respecting performance categories in various areas of the organization. Analysis and evaluation of the performance criterion is also important when taking into account the company's communication system with the market. A problem always arises when the application of the communication process has to answer to market and effectiveness criteria.

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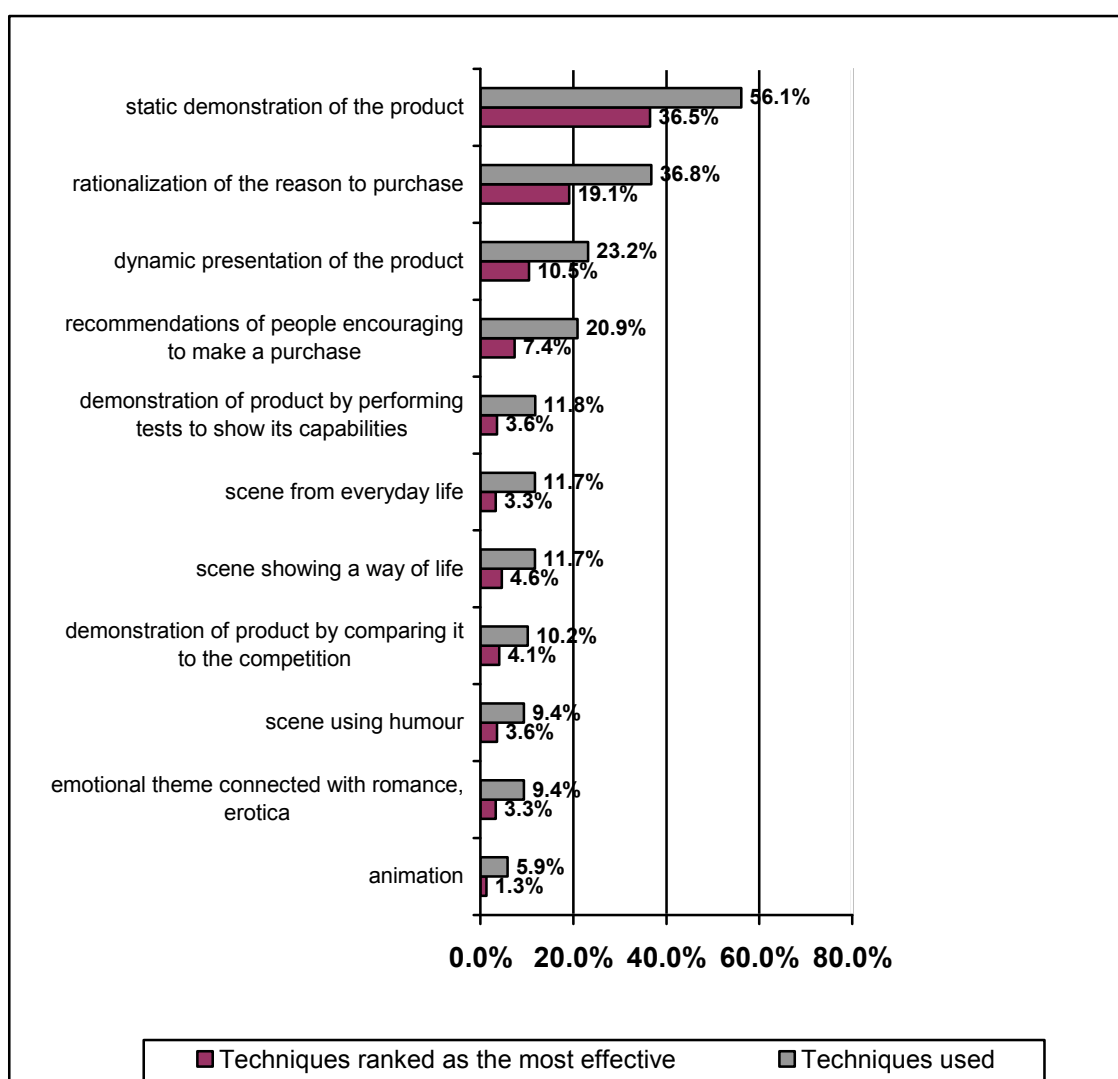
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Table - 1
The process of communicating value to the customer, and the prestige of products

Communication and the prestige of products	Number of customers who gave a certain indication	Percentage of the total number of customers
Rather yes	136	45,3
Rather no	57	19,0
It depends on the product	41	13,7
Definitely yes	38	12,7
Definitely no	28	9,3

Source: own research based on surveys conducted among consumers in Poland in 2012.

Figure - 1
Presentation Techniques of Advertisements Considered the Most Effective
(based on research conducted among enterprises in 2009)



Source: own research based on Nowacki, 2011, p. 139.

Table - 2
Opinions comparing market communication in Polish and foreign companies

Communication in Polish and foreign companies	The number of companies that gave a certain indication	Percentage of total companies
The level of market communication of Polish companies is comparable with the level of communication in foreign companies	8	47,1
Market communication of Polish companies is worse than the communication of foreign companies	4	23,5
Hard to say	3	17,6
Market communication of Polish companies is better than the communication of foreign companies	2	11,8

Source: own research based on surveys conducted among companies in Poland in 2011.

The Role of Management in the Process of Teacher's Personal and Professional Growth

Irma Kurdadze
Samtskhe-Javakheti State University,
Georgia
Professor
Tel: +995 99 17 71 09
e-mail:

Nana Makaradze
Batumi Shota Rustaveli State University,
Georgia
Address: 35, Ninoshvili str
Doctor of Pedagogy, Associated
Professor
Tel: +995 77 46 46 81
e-mail: nanamakaradze74@mail.ru

Nino Mikeladze
Batumi Shota Rustaveli State University,
Georgia
Address: 35, Ninoshvili str
Academic Doctor of Education, Visiting
teacher
Tel: +995 79 53 22 99 e-mail:
nanamakaradze74@mail.ru
Postal address: 22, Demetre
Tavdadebuli str, Batumi, Georgia, 6010

Abstract

In Georgia, the reflection on the paramount approaches in Education Management in the process of the preparation of school principals according to the modern standards, has a vital importance for development and successful implementation of educational reforms in Pedagogy. This issue requires special attention in regions.

According to the "Law of Georgia on General Education" (Chapter VIII, article 41) the principle of school may be elected or appointed in accordance with this law: S/he is a citizen of Georgia, has a higher education degree, 3 years of work experience, meets the requirements of the legislation and has not reached 65 years of age.

This document does not oblige the candidates to have a pedagogical education. Judging from the Georgian reality, the special preparation of staff for producing efficient school principals, started only in recent years and only several universities have some experience in this field (Ilia State University in Tbilisi, Kutaisi Akaki Tsereteli State University and Batumi Shota Rustaveli State University). However, it should be emphasized that above mentioned universities produce only a minimal number of future school principals with the Master's qualification in Education Administration.

The trend of conducting researches of pedagogical process is extremely important in order to strengthen the management direction in modern pedagogy. Many features of pedagogical management is defined by the educational process, or more precisely, by the specificity of the goals, methods, means and forms of learning process. The needs assessment of Samtskhe - Javakheti state university and Batumi Shota Rustaveli state university shows that the new paradigm of education with its innovative processes, includes the implementation of new courses and approaches in the frames of educational program of preparing educational representatives like teachers and school principals, which will allow future professionals to learn pedagogical management basics.

Modern education no longer needs teachers, accustomed to use instructions and often are incapable of making independent choice. Schools need a teacher, who is able to organize a learning process. A teacher who is, on the one hand, independent and creative at any stage of professional activities, on the other hand, is aware of the functions and activities of the school principal.

We believe that the realization of this problem is very important, as preparation of a modern and innovative teachers and principals means to find the final resolution of this problem.

Key words: Manager, pedagogy, skills, organization, goal, strategy, professional knowledge.

INTORIDUCTION

The trend of conducting researches of pedagogical process is extremely important in order to strengthen the

management direction in modern pedagogy. Scientific management is very actual not only in the technology and production, but also in social and

educational systems. Many features of pedagogical management is defined by the educational process, or more precisely, by the specificity of the goals, methods, means and forms of learning process.

The needs assessment in Georgia, namely, in Samtskhe - Javakheti state university and Batumi Shota Rustaveli state university shows that it is very important to implement and conduct the monitoring of teaching/learning process in Primary Education which includes the continuous observation of the process, its efficiency and outcomes. Here, of course, should be used the methods of scientific knowledge (cognition) of management. Among them, the observation on the research object, gathering information about the object, the information processing and learning, working out the hypothesis of further development, conducting experiment, modeling, and so on. For example, if we take methodological work, the major issue for pedagogical management, will be the ways of planning and designing the course, the choice of teaching methods of particular subjects and its usage, which are contributing to their development and improvement.

On the basis of pedagogical innovations, school teachers should systematically conduct the methodological analyses of the study-curricula documentation and teaching material; It is also of vital importance to plan theoretical and practical teaching lessons and modeling of teaching information transfer forms. As well as construction of students activities for developing technical concepts and practical skills, using the types of controlling professional knowledge, skills and habits. The school teacher is a manager of the cognitive-learning process as well as s/he appears to be the manager of cognitive/learning performance. The manager of upbringing and learning process is a head of the educational

institution who appears to be a subject of upbringing and learning process.

The development of communicative skills is very important for the future managers, which includes the manager's ability to communicate with the staff. It should be noted that the manager should be able to establish a good relationship as with the heads of the company so with his subordinates. This feature refers to whether the manager is able to present himself as a member of the team and defuse conflict situations, attract employees, give an example to them and show the warmth and respect through simple human relations. Managers gifted with the well-developed human skills stimulate subordinates for the self-expression and involvement in work with full energy.

It should be noted that the globalization process requires more human skills from managers in order to get better results. A good manager is a captain of a team, supporter, coach and mentor. He trusts his employees, helps them to discover and reveal the hidden skills.

Another important point is to develop school principals and teachers' technical skills which means having specialized knowledge and capabilities. The skill of using methods, technologies and equipment is necessary for fulfilling specific tasks. Mentioned skills are also of vital importance for identifying and filling up the gaps in these methods and technologies. Manager must possess professional knowledge, s/he must have the skills of using instrumental and other strategies in order to resolve the problems. Technical skills are especially important at lower organizational levels, because these are the levels where specific jobs and tasks are performed. In the managerial hierarchy the role of technical skills from down to the top is gradually declining and

its place is occupied by human and conceptual properties.

The course will also help specialists to develop other important skills, for example, a manager works in a very fast mode, which requires incredibly a lot of energy. Every day he usually reads many letters, attends several meetings, A manager can't plan a day ahead because very often completely unforeseen event occurs and s/he needs to plan other appointments, to correct planned activities - cancel or delay. Too often, managers spend extra hours working.

Analyses result

All the above-mentioned shows that managers have to fit many roles. As we have already noted, the role is a unity of "certain behavioral rules which corresponds with the particular institution or particular position". We believe that they can be grouped into three main categories:

Interpersonal.

Informative.

Related to the decision-making.

The first category includes management of people, the second - management of information, and the third - management of events. These roles cannot exist without each other. On the contrary, they are mutually dependent and they interact to form one whole. We can discuss each of them in details:

Interpersonal roles include Manager's relationships with other employees of the organization and means using all the above discussed human features. The head manager is the symbolic manager, who performs a legal or social functions. Manager is a face of the organization. The leadership role of the manager requires to have the ability of motivating others, to have communication

skills and the skill of influencing co-workers. Manager as a connecting link, who provides informative links inside or outside the organization;

Informative roles include the types of managing activities aimed at creation and development of the enterprise information network. 75% of working time of high-level managers is spent on speaking with other people.

The role of the observer or information recipient means getting the information from various sources. Information sources can be heads, colleagues, subordinates, mass-media, etc. The role of speaker means the dissemination of information within the organization.

Role related to the decision making includes the initiation of implementation of the real actions. Managers are constantly thinking about how to turn the desired future into present. Aiming to solve the current problems managers push themselves towards well planned actions. Manager as a firefighter should have an ability to find the solution to the conflict between employees or departments. Managers are required to be balanced, fair, and confident. Manager's should be authoritative and must be respected. He also must reveal the problems during the work for further improvement.

Resource Manager is associated with the manager role who can deliberately distribute all available resources (time, equipment, people, budget allocations, etc.). Manager decides what to allocate funds for and in what quantities, how to allocate time, materials / raw materials etc. Manager's role in the negotiations is to carry on the communication, to conduct the negotiation and making agreements. Planning also requires a lot of attention in this process.

Planning - This is the process of working out the decisions and actions which should be implemented in the organization to accomplish its purposes. The planning function involves four types of managerial activities. These are:

Resource allocation.

Environmental adaptation.

Internal coordination.

The strategy determination.

Below we will discuss each of them in more details.

Resource Allocation - This process involves the allocation of resources between the entities and the activities. Any resource is usually limited, so it's very important to have an efficient distribution in order to achieve success;

Environmental Adaptation - Adaptation in this case is considered in a broader sense. It includes all of the actions which improves the relationship of the organization with the environment. Any company needs to analyze negative and positive factors of environment and adaptations.

It is necessary to work out different ways of actions to ensure the maximum use of favorable factors for the fulfillment of aims of the organization and avoiding negative factors;

Internal coordination means working out the activities in order to identify strengths and weaknesses of the organization. This is necessary to achieve the efficiency of the organization;

Defining the Strategy - a strategy is a detailed, comprehensive plan, which is designed to achieve the main goal (mission) of the company. Its determination is one of the most important stages of planning. The strategic planning is quite complex and comprehensive process and

planning process starts by defining the main goal of the organization. What are the characteristics of any goal to be achieved by the organization to be successful?

To be specific and measurable - first of all, any goal should be specific and measurable. Thus, the leadership of the organization creates the basis for further decisions and performance. A mid-level managers have a focus on fulfilling their future actions. Also, it is easier to determine how well the organization is functioning in terms of achieving the goals set in advance. These factors are of great importance for control functioning;

Definite time frame – predicting the specific terms represent one of the important characteristics of effective goals. It is necessary to accurately define not only what the organization wants to achieve, but also, when the results should be expected. Goals are usually set for long or short period of time. The time horizon of long-term goal is more than one year, while the short-term goals should be expected to fulfill in one year. In any successful organization, first of all, long-term goals are defined. After that the short-term plans are being implemented to serve the achievement of long-term goals;

Accessibility - the goal must be achievable. Setting a goal that exceeds the capabilities of an organization due to lack of resources or any external factors, can lead it to the catastrophic results. It should be noted that achieving the goals or getting real outcomes of work represents quite important bases of motivation. Therefore, if the goal is too difficult and actually unreachable, the trend towards success will be reduced within workers / employees.

Mutually supportive goals - and in the end, in order to make the activities of the organization effective, its numerous

long term and short term goals should be mutually supportive. This means that one should not interfere with achieving other objectives. Proper budgeting is also very important in this process.

One of the most important tasks in planning is to maximize the efficient allocation of resources. Budgeting is usually used for that purpose. Budget - is a quantitative form of resource allocation method. This method is the most widely used component of planning. Basically, the budget is a financial plan for the entire organization. It is defined for one year period and is related to the fiscal year of the company. The annual budget is divided into monthly and quarterly budgets. Using a short period allows managers to compare actual results more often than planned. As a result, problems are easy to detect and find their solution.

There is not a close connection between the budget and the strategic plan. This connection helps a manager to shift attention to the short-term period. It also improves decision-making, as a result of it managers are acting more cautiously and carefully when allocating resources.

The articles planned by the budget control the usage of resources and motivates the employees. Control means a comparison of the existed results with the results of the planned budget. The big difference between the actual and planned results means that the system is not under the control. In order to find out the reasons and improve the situation it is necessary to work out certain activities.

CONCLUSION

Future teachers should identify and consider the basic rules of pedagogical process and outcomes. The confrontation of pedagogical and managerial activities emphasized the functions of management such as: motivating, constructive, organizational and informational. The new

paradigm of education with its innovative processes, includes the implementation of new courses and approaches in the frames of educational program of preparing educational representatives like teachers and school principals, which will allow future professionals to learn pedagogical management basics.

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Stock Price Reaction to Bonus Issue – Evidence from Indian Equity Market

M. MUTHUKAMU

Assistant Professor, Department of Business
Administration, APSA. College, Tiruppattur -630 211,
Tamil Nadu, South India.E-Mail-
mmuthukamu@gmail.com

Dr.S RAJAMOHAN

Professor, Alagappa Institute of Management,
Alagappa University, Karaikudi-630 003, Tamil
Nadu, South India.

ABSTRACT

Indian Economy, one among the fast growing economy in the world, has witnessed new heights in the Indian equity markets due to the recent earnings of the Indian companies in the recent times, which has lured the investors both domestic and foreign to show keen interest in making investments in the Indian equities. Investors react to any corporate actions instantaneously, explicitly on the announcement of bonus issues which play a vital role in the fluctuations of share prices. Various studies so far has proved that the behaviour of the investing community towards bonus issue differ according to the interpretations given about the present and future prosperity of the stocks in the respective nations. An attempt has been made in this study, to analyze the behaviour of the share prices in the Indian equity market towards the announcements of bonus issue, taking into account the price movements of the Nifty Index stocks that has announced its bonus issue, and to find out the impact of the price behaviour by comparing the stock performance with the performance of the market index. The purpose of the study is also to comprehend the behaviour of the Indian equity market, whether it aligns or differs with other major global equity markets. To assess the stock price reactions to bonus issue in the Indian equity market, Wilcoxon Matched Pairs Test has been applied in this study. The research has revealed that there is a significant impact on the price movement of shares in accordance with the size of the bonus issue in the Indian equity market as observed in other major global equity markets.

Keywords: Bonus issue, Wilcoxon Matched Pairs Test, Price Reactions.

Jel Classification: G11

INTRODUCTION

Bonus issue is a financial illusion because it does not affect any cash inflow or outflow, and it does not add value to the firm and stock holders. It merely distributes additional shares to existing shareholders in proportion to their existing investment. Hence, bonus issue has no real economic significance. Investors most often prefer to buy shares of those companies which have announced bonus issues previously. It is evidenced by the volume of transactions that has taken place on those shares during the respective trading period. It is very clear from the theoretical point of view that the issue of bonus shares will only increase

the number of equity shares outstanding, but no effect on the shareholder's proportional ownership holding of shares. As there is no change on the proportional ownership of shareholders, one cannot expect any significant price reactions on the announcement of bonus shares. Miller M and Modigliani F (1961) has proved that bonus issues, along with other types of dividends declared do not amend the shareholders wealth. Sloan R G (1987) has also supported this with Australian evidence that bonus issue do not influence the stakeholder's wealth. But contrary to this ideology, most of the investors prefer to make investment on those stocks which announces bonus issue. Foster.T.W, and dVickrey,D. (1978) conducted a study to

examine the daily returns around the stock dividend announcements to find whether these announcements cause investors to change their expectation concerning future prospects of the firm. In their examinations they found that there is a positive change in the attitude of investors and significant positive abnormal returns around the announcement dates.

Any change in the value of the stock caused by the bonus issue announcement must have been fully discounted on the ex-bonus day. The stock price should get adjusted on the ex-bonus day only to the level justified by the bonus issue ratio. But it is disproved by the study conducted by Woolridge J.R.(1983) that the price adjustment is either more or less than what is consistent with the bonus share percentage. A study by Eisemann P.C and Moses Edward.A (1978), to understand the management's view towards stock dividend has confirmed the fact that, firms are issuing bonus shares for the purpose to preserve the cash and to convey the confidence about the firm's future performance. Grinblatt M S, Mansulis R W and Titman S (1984) in their study found that most of the corporate houses are using stock split and bonus issue announcement, as a measure to attract the attention of market participants when they feel that their share prices are undervalued and traded on discount. Hence an attempt is made by the researcher to assess the real impact of bonus announcements on the price behaviour of Indian equities of those firms that has issued bonus shares

Indian equity market is an emerging market and it has two major trading platforms, viz. National Stock Exchange (NSE) and Bombay Stock Exchange (BSE) and their bench mark indices are NIFTY and SENSEX respectively. For this study, the researcher has taken the stock composition of Nifty Index. The Index of

Nifty comprise of top performing blue chip companies numbering 50. Out of these fifty companies only thirty four companies have announced the bonus issues and those issues alone were taken for studying the impact of bonus issue announcement on the stock price movements.

LITERATURE REVIEW

A study conducted by **Ball.Ray, Brown.Philip and Finn.Frank (1977)** titled "Share Capitalization Changes, Information and the Australian Equity Market" has revealed that there was an abnormal return up to 20.2% for 13 months including the month of bonus announced. In a research work by **Eades,K., Hess,P. and Kim,E.(1984)** titled, "On Interpreting Security Returns During the Ex-Dividend Period", it was found that the companies listed on the New York Stock Exchange has delivered a significantly positive returns during the ex-date of stock dividends. Results were reported that the ex-day itself has shown the largest average abnormal returns and it was not confined to the ex-day but were significant on the day prior to it and also two days after to it. **Lakonishok.J., and Vermaelen,T., (1986)** has observed a substantial positive abnormal return for stock split and stock dividends. They considered each of the five trading days prior to the ex-day, the ex-day itself and two trading days subsequent to it and found that the largest positive abnormal return is experienced on the ex-day itself. A study by **Lijeblom,E. (1989)** to examine the informational impact of stock dividend and stock split for stocks listed on the Stockholm Stock Exchange, found that there is significantly high price reactions for the stock dividend and stock split announcements.

McNichols,M., and David,A. (1990) have examined the relationship between the size of bonus issue and the

degree of abnormal returns around the announcement dates in US market.. They found that there is a positive relationship between the size of bonus issue and the abnormal return. The larger the size of bonus issue delivers positive returns and smaller in size of bonus issue delivers negative returns. A study titled on "The Effect of Canadian Stock Splits, Stock Dividends and Reverse Splits on the Value of the Firm", by **Masse,I, Hanrahn,J.R, and Kushner,J. (1997)** to find the impact of stock dividend announcements on the value of the firms listed on the Toronto Stock Exchange revealed that there is a significant and positive abnormal returns around the stock dividend announcement date.A study carried out by **Papaioannou G.J., Travlos,N.G., and Tsangarakis N.V., (2000)** to analyse price reaction to stock dividend announcement by firms listed on the Athens Stock Exchange found no statistically significant abnormal returns on and around the announcement date. It may be described by the fact that the bonus issues are compulsory requirement imposed upon the firms to satisfy the regulatory requirements.

Michelle L.B and Shiguang.M (2001) studied the behaviour of China's stock prices in response to the announcement of bonus issue and found that the high ratio bonus issue attracts positive return and the bonus announcement with low ratio are rewarded with almost negative pay out.A study by **Balachandiran,B.,Faff,R.,andJong.L.,(2005)** to know the share price reaction to announcement of bonus share issues of Australian Market found that the price reaction to bonus share announcements from the day of announcement to the trading day next to the bonus announcement day is statistically significant and the positive of average 2.73% for uncontaminated events and

2.11% for contaminated events.A research work by **Pathirawasam.C,(2009)** to investigate the stock price reaction to stock dividends announcement by employing event study methodology found that the amount of positive abnormal returns on the announcement day in Colombo Stock Exchange is much larger comparing to any other international discoveries. He also found that the announcement day ($t = 0$) abnormal return increases with the size of the stock dividend and vice versa.

NEED FOR THE STUDY

From the literature above it is clear that the announcement of bonus share has an impact on the price behaviour of equities. It has been proved by a few studies conducted in various equity markets like Sri Lanka, China, Australia, Canada, U.S.A and so on. It is observed that the size of the bonus issue do play a key role in the price behaviour of the equity shares. If the bonus issue is of large size, then the market reacts positively contrarily, if the issue is smaller in size, the market shows its displeasure and delivers a negative return. But it is interesting to note that this theory does not apply to equity market of Athens. A research at Greece found that there is no impact on bonus announcement in the price behaviour of shares irrespective of the size of bonus issue. The present study is intended to explore whether the Indian equity market is behaving in the same manner similar to the global equity markets or it differs from the reactions of the major global equity markets. The study attempts to know the nature and extent of the impact of the price behaviour towards the announcement of bonus issue not only by studying the price behaviour of the scrip but also to compare the performance of the scrips issuing bonus shares during the study period, with the performance of the Nifty Index.

OBJECTIVES OF THE STUDY

The objectives of the study are to find out the impact of bonus issue on the price behaviour of Nifty index stocks and to assess the nature and extent of scrip performance based on the size of the bonus issue in relation to the market performance.

HYPOTHESIS OF THE STUDY

H₀ (Null hypothesis): There is no impact on the price behaviour of the shares due to bonus issue.

H₁ (Alternative hypothesis): There is significant impact on the price behaviour of the shares due to bonus issue.

RESEARCH DESIGN

Data and Sample

For the purpose of finding the impact of bonus issue on share price behaviour, the stocks in the composition of Nifty Index alone has been selected. The study is based on secondary data and the information regarding the date of the bonus issue were collected from www.moneycontrol.com and PROWESS – a database published by the Centre for Monitoring Indian Economy (CMIE). The information on the daily price movements of selected stocks and Nifty Index movements were collected from www.nseindia.com, an official website of National Stock Exchange where the accurate and reliable information is available. For the purpose of analysing the data to know the impact of bonus issue, the daily closing price data for the selected stocks for the period from 30 days before and after the bonus issue i.e., (- 30 days to +30 days) were taken and the Wilcoxon matched pairs test method has been employed for analytical purpose.

Research Methodology

Analytical Tool 1: To test the hypothesis, Wilcoxon matched pairs test is used in this

study. It is a non – parametric test method which considers both direction and magnitude of the difference between any paired values.

The procedure of the Wilcoxon matched pairs test is as follows:

- List the pairs of observations and for each pair calculate the difference ($D_1 = X_1 - Y_1$).
- Omit all observations with equal values and reduce the sample size accordingly.
- Rank these differences in ascending order without regard to their signs and the cases of tied ranks are assigned ranks by average method.
- Find $\sum S^+$ and $\sum S^-$ where $\sum S^+$ is the sum ranks with positive difference and $\sum S^-$ is the sum of ranks with negative.
- The Wilcoxon T-statistic is defined as the smallest of the two sums of ranks i.e $T = \min(\sum S^+ \text{ or } \sum S^-)$ and apply the formula given below;

$$\text{Mean of T: } E(T) = n(n+1) / 4$$

$$\text{Standard deviation of T: } \sigma T = \sqrt{n(n+1)(2n+1) / 24}$$

$$\text{Z- Test Statistic; } Z = \frac{T - E(T)}{\sigma T}$$

Decision Rule:

Find the table value of Z_α for a given α level of significant and accept the Null hypothesis if the calculated value of $|Z|$ is less than table value of Z_α , otherwise reject the null hypothesis.

Analytical Tool 2: For the purpose of comparing the performance of scrip with the performance of Nifty Index, a simple mathematical model has been constructed for this research study and employed to find the actual return of the selected scrips and the Nifty Index, $R_{jt} = P_{jt} - 1 + (P_{jt} - P_{jt-1}) / P_{jt-1}$; Where R_{jt} is the actual return of the

security j in period t , P_{jt-1} is the price of security j on day prior to day t ; P_{jt} is the price of the security j on the day t . After calculating the daily actual returns for the period of 61 trading days ie., 30 trading days before and after the bonus issue (-30 to +30), the average of daily actual returns is calculated by applying the following simple arithmetic mean formula and is similarly calculated for Nifty Index by taking the period corresponding to the period taken for selected scrips; $\bar{X} = \sum R_{jt} / N$; Where \bar{X} is average of actual daily returns of security j or Nifty Index, N = Number of observations. After finding the average of actual daily returns for both selected securities and the Nifty Index, the performance ratio has been calculated by adopting the following formula;

Average of Actual Performance of selected scrip

Performance Ratio = -----

Average of Actual Performance of Nifty Index

Decision Rule;

If the value of the performance ratio is greater than 1, it may be interpreted that the performance of the scrip is better than the performance of the Nifty Index and vice versa.

Working Model

The Table 1 shows the working of Wilcoxon matched pairs test and the result derived for BHEL, taking as an example and the results of working has been exhibited below.

$$\begin{aligned} E(T) &= n(n+1)/4 \\ &= 30(30+1)/4 \\ &= 30 \times 31 / 4 \\ &= 232.50 \end{aligned}$$

$$\begin{aligned} \sigma T &= \sqrt{n(n+1)(2n+1) / 24} \\ &= \sqrt{30(31+1)(2 \times 30+1) / 24} \end{aligned}$$

$$= \sqrt{2363.75} = 48.62$$

$$\begin{aligned} Z &= T - E(T) / \sigma T \\ &= 33 - 232.50 / 48.62 \\ &= - 4.10325 \end{aligned}$$

$$Z = - 4.10325 \text{ and } |Z| \text{ is } 4.10325.$$

ANALYSIS AND INTERPRETATION:

Impact of Bonus Issue:

As per the working model, Table 2 shows the results of the Wilcoxon matched pairs test for all the selected Nifty Index stocks which has issued the bonus shares. Out of the 50 Nifty Index stocks only 34 companies have announced the bonus issue out of which the price behaviour data was available only for 30 companies in the official website of NSE (National Stock Exchange). In the selected sample, few firms have issued bonus shares more than once and for the study purpose only the recent bonus issues made by the firms have been considered for analysis.

Table 2 recapitulates the impact of bonus issue on the share price performance. It is found that 87% of the total sample ie., 26 stocks out of 30 have shown impact during the event window period either positively or negatively ie., the calculated $|Z|$ value of these stocks are higher than the table value (1.645) at 5% significance level, and only 13% of selected sample (ie., 4 scrips namely, ACC, Hindalco, JP Associates and Sun Pharma), express that there is no impact on the price behaviour of these stocks due to the bonus issue. The calculated $|Z|$ value of these stocks are lesser than the table value (ie., 1.645) at 5% significance level. Thus it is evident that there is positive reaction from the investors to the bonus issue.

The observation from the table indicates that out of the 26 stocks which shows the impact on their price

movement, 20 stocks namely Jindal steel & power (- 465), Lupin (- 464), Infosys (- 464), Hero Motors(- 461), M&M (- 460), ITC(- 460), NMDC(- 458), Bajaj Auto (- 456) and others (i.e., 70%) exhibit a positive impact which means that the market price of these stocks after bonus issue is higher than before bonus issue and remaining 6 stocks (ie30%) reveal a negative impact, namely ONGC (+461), BPCL(+446), Gail(+445), L&T(+438), Ranbaxy(+423), HCL Tech(+401). Hence the Null hypothesis is rejected indicating that the bonus issue of the stocks have a significant impact on the price behaviour.

Comparison of Scrip and Market Performance

Table 3 has been constructed to find the performance of the scrip based on the size of the bonus issue. The average of the actual daily returns of the security is calculated and compared with the average of actual daily returns of the Nifty Index. The stocks have been arranged in the table based on the size of the bonus issue for easy reference. High bonus payout ratio stocks have been placed first followed by the other stocks depending on their bonus payout ratio.

Size of the bonus issue has a direct relationship with the price performance of shares. Scrip having high bonus payout ratio is experiencing good response from the investing community. They buy these shares since it gives superior returns in excess to the market returns. A stock with high bonus payout ratio is witnessing a surge in price after the bonus issue. In table 3, the stocks having higher bonus ratio like Jindal Steel(5:1),NMDC(2:1),Cipla (3:2) and Kotak Mahindra Bank (3:2) have performed well which has been proved from their performance ratio which is > 1 , when compared with the Nifty performance during the study period. The

scrips having lower bonus ratios like Tata Steel (1:2), L & T (1:2), J P Associates (1:2), Hindalco (1:2),Asian Paints(1:2) and Ambuja Cements (1:2) have performed considerably lower than the performance by Nifty Index, which is observed with a performance ratio of <1 . Hence scrips having higher bonus ratio delivers positive returns and have performed better than the Nifty Index during the study period, indicating that the size of bonus issue have always been giving positive results attracting the investors.

CONCLUSION:

The results of the study prove that the bonus issue by the corporates have a significant impact on the price movements of the shares and the market is reacting according to the size of the bonus issues. It is observed from the study that the scrips in the Nifty Index having higher bonus ratio witness a positive impact and perform better than the market Index. But at the same time if the bonus issue is smaller in size, it fails to attract the investors and hence delivers a negative impact.

The research study has also proved that the performance of those scrips having lesser bonus ratio is underperforming compared to the market performance. Hence it is concluded that the Indian Equity market is also behaving identical to the major Global Equity Markets in relation to the issue of bonus shares.

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ANNEXTURES

Table - 1
Share price behaviour – before and after the
Announcement of bonus issue (bhel)

X_1	Y_1	$D_1=X_1-Y_1$	Rank	S (-)	S (+)
2767.8	2837.5	-69.7	7	-7	
2857.45	2747.3	110.15	10		10
2728	2772.5	-44.5	5	-5	
2702.8	2678.9	23.9	3		3
2709.8	2674.3	35.5	4		4
2713.25	2621.8	91.45	9		9
2679	2632.8	46.2	6		6
2634.4	2642.8	-8.4	2	-2	
2623.35	2621.1	2.25	1		1
2624.85	2696.3	-71.45	8	-8	
2593.75	2783.4	-189.65	11	-11	
2520.8	2762.0	-241.2	12	-12	
2451.05	2712.5	-361.45	13	-13	
2437.05	2851.6	-414.55	14	-14	
2429.3	2966.1	-536.8	20	-20	
2449.1	2877.3	-428.2	15	-15	
2472.1	2901.6	-429.5	16	-16	
2491.5	2946.3	-454.8	19	-19	
2497.1	2928.0	-430.9	17	-17	
2539.45	2987.2	-447.75	18	-18	
2487.85	3075.7	-587.85	24	-24	
2490.15	3060.0	-569.85	22	-22	
2515.35	3093.7	-578.35	23	-23	
2492.75	3090.5	-597.75	25	-25	
2497.55	3114.6	-617.05	27	-27	
2540.6	3108.2	-567.6	21	-21	
2537.55	3158.2	-620.65	28	-28	
2503.9	3131.4	-627.5	29	-29	
2553.5	3151.3	-597.8	26	-26	
2542.75	3284.0	-741.25	30	-30	
				-432	+33

X_1 = share price before the bonus issue.

Y_1 = share price after the bonus issue (Adjusted).

Table - 2
Impact Of Bonus Issue On Share Price Behaviour- Results of Wilcoxon Matched Pairs Test

Name of the scrip	$\Sigma S(+)$	$\Sigma S(-)$	ET	σT	
ACC	268	197	232.50	48.62	0.7306
AMBUJA CEMENTS	81	384	232.50	48.62	3.1160
ASIAN PAINTS	9	456	232.50	48.62	4.5969
BAJAJ AUTO	6	459	232.50	48.62	4.6586
BPCL	446	19	232.50	48.62	4.3912
BHEL	33	432	232.50	48.62	4.1033
CIPLA	101	364	232.50	48.62	2.7047
DRREDDYS	42	423	232.50	48.62	3.9181
GAIL	445	20	232.50	48.62	4.3706
HCL TECH	401	64	232.50	48.62	3.4657
HDFC	10	455	232.50	48.62	4.5763
HERO MOTOR CORP	4	461	232.50	48.62	4.6997
HINDALCO	224	221	232.50	48.62	0.2365
INFOSYS	1	464	232.50	48.62	4.7614
ITC	5	460	232.50	48.62	4.6791
J P ASSOCIATES	269	196	232.50	48.62	0.7507
KOTAK MAHINDRA BANK	22	443	232.50	48.62	4.3295
L & T	438	27	232.50	48.62	4.2267
LUPIN	1	464	232.50	48.62	4.7614
M & M	5	460	232.50	48.62	4.6791
NMDC	7	458	232.50	48.62	4.6381
ONGC	461	4	232.50	48.62	4.6997
RANBAXY	423	42	232.50	48.62	3.9181
RELIANCE	80	385	232.50	48.62	3.1366
STERLITE	122	343	232.50	48.62	2.2727
SUN PHARMA	184	281	232.50	48.62	0.9975
TCS	19	446	232.50	48.62	4.3912
JINDAL STEEL&POWER	0	465	232.50	48.62	4.7819
TATA STEEL	87	378	232.50	48.62	2.9926
WIPRO	83	382	232.50	48.62	3.0749

*Table value at 5% significance level.

Table - 3
Comparison of Performance of Nifty Index with Selected Stocks Based on the Size of the Bonus Issue

S.NO	Name of the Scrip	Size of the Bonus Issue	Performance of Nifty Index	Performance of the Scrip	Performance Ratio
1	JINDAL STEEL	5:1	1.00049	1.00561	1.0052
2	NMDC	2:1	0.99682	1.00432	1.00752
3	CIPLA	3:2	0.99969	1.00024	1.00783
4	KOTAK MAHINDRA BANK	3:2	1.00156	1.00197	1.00041
5	BAJAJ	1:1	1.00165	1.00215	1.0005
6	BHEL	1:1	1.00152	1.00369	1.00217
7	BPCL	1:1	1.00165	1.00044	0.99879
8	HCLTECH	1:1	0.99999	1.00021	1.00022
9	HDFC	1:1	1.00252	1.00311	1.00059
10	HERO MOTOR CORP	1:1	0.99804	1.00788	1.00986
11	INFOSYS	1:1	1.00241	1.00399	1.00158
12	ITC	1:1	1.00135	1.00173	1.00038
13	LUPIN	1:1	1.00175	1.00168	0.99993
14	M&M	1:1	1.00181	1.00322	1.00141
15	RELIANCE	1:1	1.00037	1.00009	0.99972
16	SUN PHARMA	1:1	1.00012	1.00251	1.00239
17	TCS	1:1	1.00411	1.00722	1.0031
18	DRREDDY	1:1	1.00204	1.00112	0.99908
19	ONGC	1:1	0.99834	0.99723	0.99889
20	STERLITE	1:1	1.00119	1.00005	0.99886
21	WIPRO	2:3	1.00068	1.00051	0.99983
22	ACC	3:5	0.99406	0.99701	1.00297
23	RANBAXY	3:5	0.99905	0.99888	0.99983
24	AMBUJA CEMENTS	1:2	1.00287	1.00243	0.99956
25	ASIAN PAINTS	1:2	1.00414	1.00251	0.99838
26	GAIL	1:2	0.99208	0.99594	0.00389
27	HINDALCO	1:2	0.99622	0.99545	0.99923
28	JP ASSOCIATE	1:2	1.00047	0.99956	0.99909
29	L&T	1:2	0.99822	0.99617	0.99795
30	TATA STEEL	1:2	0.99822	0.99618	0.99796

Hedging of Financial Derivatives : Contrivance to maximize returns

Dr. R AMUDHA,
Associate Professor
Karunya University
Karunya University Business School
Karunya Nagar,
Coimbatore
Tamil nadu
India
amudha8@gmail.com

Mr.PETER LEO DEEPAK
Associate Analyst
Wipro PVT LTD
Investment Banking
deewithu@gmail.com

Abstract

The origin of the stock market in India goes back to the end of the eighteenth century when long-term negotiable securities were first issued. However, for all practical purposes, the real beginning occurred in the middle of the nineteenth century after the enactment of the companies Act in 1850, the advantage of limited liability that generated investor interest in corporate securities. BSE and NSE have established themselves as the two leading exchanges and account for about 80 per cent of the equity volume traded in India. There is a perception among the traders that derivatives are highly risky and at the same time provides high returns. This paper analyzes three financial derivative products of NSE, namely, Nifty futures & options, Gold ETF and Currency futures, in combination as a basket of derivative products, for two opposite trend periods.

Though it is highly risky to trade derivative products, it is essential to prove that the risk can be reduced at a maximum level without affecting the returns. The researcher attempts to examine the risk and returns of these products individually and in combo by applying few of the option strategies to prove that the derivatives though risky, it is a viable opportunity to enhance returns or minimize the loss. This paper will help the traders, investors and academicians to understand the derivatives market as also the effective applicability of the trading techniques as well, .

Key Words: Financial Derivatives, ETF, Currency Futures, Hedging, Option Strategies
JEL CLASSIFICATION: G11

INTRODUCTION

The origin of the stock market in India goes back to the end of the eighteenth century when long-term negotiable securities were first issued. However, for all practical purposes, the real beginning occurred in the middle of the nineteenth century after the enactment of the companies Act in 1850, which introduced the feature of 'limited liability' which generated investor interest to invest in corporate securities.

Stock exchange means a body of individuals, whether incorporated or not,

constituted for the purpose of regulating or controlling the business of buying, selling or dealing in securities. These securities include:

Shares, scrip, stocks, bonds, debentures stock or other marketable securities of a like nature in or of any incorporated company or other body corporate;

Government securities; and

Rights or interest in securities.

BSE and NSE are the two primary exchanges in India. In addition, there are

22 Regional Stock Exchanges. However, the BSE and NSE have established themselves as the two leading exchanges and account for about 80 per cent of the equity volume traded in India. The NSE and BSE are equal in size in terms of daily traded volume. The average daily turnover at the exchanges has increased from Rs 851 crore in 1997-98 to Rs 1,284 crore in 1998-99 and further to Rs 2,273 crore in 1999-2000 (April - August 1999). NSE has around 1500 shares listed with a total market capitalization of around Rs 9, 21,500 crore.

The BSE has over 6000 stocks listed and has a market capitalization of around Rs 9, 68,000 crore. Most key stocks are traded on both the exchanges and hence the investor could buy or sell them on either of the exchanges. Both exchanges have a different settlement cycle, which allows investors to shift their positions on the bourses. The primary index of BSE is BSE Sensex comprising 30 stocks. NSE has the S&P NSE 50 Index (Nifty) which consists of fifty stocks. The BSE Sensex is older than NSE's Nifty index and is more widely followed index too. The present study is an endeavor in this direction. As with other financial instruments, currencies therefore are under the rules of supply and demand for assets. In order for investors to purchase new assets they must sell off other less attractive assets in their portfolio. As the country's assets increase in its value, interest rates begin to rise creating an appreciation of domestic currency. So, this study attempts to examine whether or not a causal relationship exists between exchange rates and stock market by using the Granger Causality and co-relation, for which relationships were determined for data between 2004 and 2012 in India.

LITERATURE REVIEW

In an increasingly complex scenario of the financial world, it is of paramount

importance for the researchers, practitioners, market players and policy makers to understand the dynamic progress and growth of the Indian stock market. Interactions between stock and foreign exchange market came to the forefront because these two markets are the most sensitive segments of the financial system and are considered as the barometers of the economic growth through which the country's exposure towards the global countries is most readily felt. Before going to discuss further about the linkages between the stock and foreign exchange market, it is better to highlight the evolutions and perspectives that are associated with both the markets since liberalization in the Indian context. There are two explanations for which variable cause and effect the other. The flow oriented model approach as described in Dornbusch and Fischer (1980) research show that currency movements directly affect international competitiveness. In turn, currency has an effect on the balance of trade within the country. As a result, it affects the future cash flows or the stock prices of firms. The counter argument suggests that taking a portfolio-balance approach (Dornbusch, 1976), where portfolio holders should diversify to eliminate firm specific risk, requires effective investments allocation including currencies.

Researchers used models like granger causality, GARCH (1, 1), vector autoregressive (VAR), Vector Error Correction Model (VECM), regression and multi- regression for finding out the relationship between stock market and foreign exchange market. An early attempt to examine the exchange rate and stock price dynamics was done by Franck and Young (1972) who showed that there is no significant interaction between the variables. Soenen and Hennigar (1988) studied the same market but considered a

different time period and contrast with prior studies by showing a significant negative relationship between stock prices and exchange rates. Solnik (1987) made a slightly different study and tried to detect the impact of several economic variables including the exchange rates on stock prices. He concluded that changes in exchange rates do not have any significant impact over stock prices.

Nieh and Lee (2001) supported the findings of Bahmani-Oskooee and Sohrabian (1992) and reported no long-run significant relationship between stock prices and exchange rates in the G-7 countries. Roll (1992) also studied the US stock prices and exchange rates and found a positive relationship between the two markets. Chow et al. (1997) examined the same markets but found no relationship between stock returns and real exchange rate returns. They repeated the exercise with a longer time horizons and found a positive relationship between the two variables. Abdalla and Murinde (1997) employed co-integration test to examine the relationship between stock prices and exchange rates for four Asian countries named as India, Pakistan, South Korea and Philippines for a period from 1985 to 1994. They detected unidirectional causality from exchange rates to stock prices for India, South Korea and Pakistan and found causality runs from the opposite direction for Philippines. Yamini Karmarkar and G Kawadia tried to investigate the relationship between RS/\$ exchange rate and Indian stock markets.

Five composite indices and five spectral indices were studied over the period of one year: 2000. The results indicated that exchange rate has high correlation with the movement of stock market. Wu (2000) did a similar study using stock prices and exchange rates of Singapore and portrayed a unidirectional causality from exchange rates to stock

prices. Apte (2001) investigated the relationship between the volatility of the stock market and the nominal exchange rate of India by using the EGARCH specifications on the daily closing USD/INR exchange rate, BSE 30 (Sensex) and NIFTY-50 over the period 1991 to 2000. The study suggests that there appears to be a spillover from the foreign exchange market to the stock market but not the reverse. In a recent study. Bhattacharya and Mukherjee (2003) investigated Indian markets using the data on stock prices and macroeconomic aggregates in the foreign sector including exchange rate concluded that there is no significant relationship between stock prices and exchange rates.

OBJECTIVES OF THE STUDY

To assess the risk and return of the three financial products in the periods of uptrend, downtrend and sideways markets.

To find the relationship between Nifty Index, FOREX rates and Gold ETF.

To analyse and determine the risk-safe investment through hedging on the combo portfolio.

RESEARCH DESIGN

Data collection

The study relies on the secondary data. The data were collected for three financial products namely Nifty index, forex rate and gold ETF, from NSE and other financial websites. Data is collected for the period 01-01-2008 to 29-05-2014 on Indian stock index ie., Nifty 50 and the INR-USD exchange rate from RBI historical reference data. Gold rate was taken from MCX market historical data.

Data Analysis

The data analysis pertains to the assessment of risk and returns of the three

products during the study period; to find the correlation among these three products in the long term period and in the short term period of one year, from 2008 to 2014. The options strategies were applied with hedging as a contrivance to assess the risk-safe investment.

HYPOTHESES

The following Null hypotheses has been framed for the study:

H₀₁ : Foreign exchange rate does not impact the Nifty Index and gold prices.

H₀₂ : Nifty Index does not impact foreign exchange rate and gold.

H₀₃: gold does not impact foreign exchange rate and Nifty Index

ANALYSIS AND INTERPRETATION

Relationship between the three financial products:

The correlation analysis was performed to understand the relationship between the three financial products selected for the study, ie., Gold ETF, Nifty Index and Currency futures, for the purpose of hedging the products, has been shown in Table 1. The population correlation coefficient $\rho_{X,Y}$ between two random variables X and Y with the expected values μ_X and μ_Y and the standard deviations σ_X and σ_Y is defined as follows;

$$\rho_{X,Y} = \text{corr}(X,Y) = \frac{\text{cov}(X,Y)}{\sigma_X \sigma_Y} = \frac{E[(X - \mu_X)(Y - \mu_Y)]}{\sigma_X \sigma_Y},$$

The Table – 1 shows the relationship between the three selected financial products. It is found that there exists direct correlation between all three products namely, Nifty Index, USD rates and Gold ETF. Hence the hypothesis is refuted and it confirms relationship between these three products during the study period of six years from 2008 to 2014. It also shows a high positive

correlation between Gold and USD and a low positive correlation between Nifty and USD.

Table 2, shows the correlation between the financial products for each year from 2008 to 2014. It clearly proves that USD/INR and NIFTY has inverse relationship with USD and Gold, since Gold is in bullish trend during the years 2008,2011, 2012 2013 and 2014. In 2012 because of high CAD (Current Account Deficit) and few federal movements made, NIFTY and USD/INR are in Positive correlation as also with Gold, whereas in 2014 Nifty and gold has negative correlation when the stock markets were in uptrend, gold was in a weaker trend movement.

COMPARATIVE RISK ANALYSIS

To identify the existing risk in the selected financial products, for the selected time period, the table 3 shows the risk associated with the three financial products. The risk is assessed with the help of standard deviation tool as given below;

Standard Deviation ;

$$\sigma = \sqrt{\frac{\sum_{i=1}^n a_i^2}{n} - \left(\frac{\sum_{i=1}^n a_i}{n}\right)^2}$$

Table 3 shows the risk associated with each of the three financial products. The Risk for Nifty Index is found to be high when compared with the other two products which is 905.77, due to high volatility in the equity market during the selected period. Currency is less fluctuating than Nifty and Gold.

COMPARATIVE RETURN ANALYSIS

To analyze the return for selected time period for one contract of Nifty and USD/INR and also one gram for the Gold Bees at a notional contract value, two option strategies was applied, namely

'Married Put' and 'covered call'. The returns is assessed with the help of the following formula;

$$\text{Return} = [(\text{Closing Price} / \text{Opening price}) - 1] * 100$$

Assume the profit is calculated based on a single contract in nifty futures (initial margin is the investment of 10%) assuming the premium of each far month contract as Rs 200. Three random periods are selected to test the effectiveness of the strategies namely uptrend market, downtrend market and choppy or a non-trending market.

Married Put

It is an option strategy whereby an investor, holding a long position in stock, purchases a put on the same stock to protect against a depreciation in the stock's price.

Covered Call

An options strategy whereby an investor holds a long position in an asset and writes (sells) call options on that same asset in an attempt to generate increased income from the asset. These are often employed when an investor has a short-term neutral view on the asset and for this reason hold the asset long and simultaneously have a short position via the option to generate income from the option premium, also known as a "buy-write".

6.3.3 Return Analysis for the down trend (Bearish) market : 'Covered Call' strategy

Based on the theoretical value on a 'covered call' strategy, as on 01/01/2008 the Nifty FUTURE traded at 6144. Going long 6144 future, by hedging one can cover, by a short CALL option 6100 of May or June 2008. Based on the theoretical value the premium used to be more than Rs 150 and Rs 200 respectively since it has more time for expiry .

Nifty future 6144(paid) 30720 Short of 27-mar-2008 expiry 6100 CALL (received) 10000 On 27th March 2008, market closed at 4830 in futures. So the loss for naked position is 6570 ie., (21%), Since the long position is covered by short of Mar CALL, the actual profit is Rs. 4430(14%), where almost all of the loss has been eliminated.

This is for only taking a position. By putting a strong stop loss we can increase the above profit even more than the hedge profits. In this same position one can make profit by also applying technical and trend analysis tools. Since this is a down trend position it can be closed earlier. If the Nifty future is above 5800 it will give good returns also. By taking this position the return for naked future is -21% but at the same time return for the COVERED CALL is 14% profit. This indicates that the loss is eliminated and replaced by gaining profits.

Return Analysis for the down trend (Bearish) market : 'Married Put' strategy

Based on the theoretical value on a 'married put' strategy, as on 01/01/2008 the Nifty FUTURE traded at 6144. Going long 6144 future, by hedging one can cover, by going long in put option at 6100 of May or June 2008. Based on the theoretical value the premium used to be more than Rs 150 and Rs 200 respectively since it has more time for expiry.

Nifty futures 30720. Long of march expiry put 6100(paid) 10000. On 27mar 2008 market closed at 4830 24150.

In this case loss for naked position is 6570(-21%),since long in put 6100 profit is 53500 (131%). This shows that by using hedging tool, one can eliminate the loss but also can increase profits if one can use the right strategy at the right time.

Return Analysis for the Uptrend (Bullish) market : 'Covered Call' strategy

The return analysis for uptrend market, the period considered is 02/03/2014 to 29/05/2014, based on covered call strategy:

On 02/03/2014 nifty FUTURE traded at 6001. If taken a long 6001 future and by hedging taking a short CALL option 6000 of May or June 2014, based on the theoretical value the premium is more than Rs 150 and Rs 200 respectively since it has more time for expiry.

Nifty futures 30050. Short of 29-may-2014 expiry 6000. CALL (received) 10000. On 29-may-2014 market closed at 7360 36800.

In this case the value of naked position is 67950(226%), and applying of covered call strategy the profit is 10000(33%) only.

Return Analysis for the Uptrend (Bullish) market : 'Married Put' strategy

The above example has been adopted for bullish trend applying 'Married Put' strategy also. The calculated results are given below;

Nifty futures 30050. Long of 29-may-2014 expiry 6000 put(paid) 10000. On 29-may-2014 market closed at 7360 20050.

In this case value of naked position is 67950(226%) and applying married put strategy the profit gained is 57950(144%) only.

Return Analysis for the Non-Trend or choppy market : 'Covered Call' strategy

The sideways or Non-Trend market has been chosen during the period 05/04/2011 to 30/06/2011 for analytical purpose. Applying the 'covered call'

strategy, the results are exhibited as follows;

On 05/04/2011 nifty FUTURE has traded at 5785. If a long position is taken at 5785 future and by hedging one can cover by short CALL option 5700 of May or June 2011 .

Based on the theoretical value the premium used to be more than Rs 150 and Rs 200 respectively since it has more time to the expiry.

Nifty futures 28925. Short of 30-june-2011 expiry 5700 CALL (received) 10000. On 30-june-2011 market closed at 5627 28135.

In this case loss of naked position is 790 (ie.,-2.7%), using the covered call strategy, the profit gained is 10790 (37%) .

Return Analysis for the Non-Trend or choppy market: 'Married Put' strategy

Taking the above example for the period 05/04/2011 to 30/06/2011, and adopting the 'Married put' strategy, the following results are obtained;

Nifty futures 28925. Long of 30-june-2011 expiry 5700 PUT(paid) 10000. On 230-june-2011 market closed at 5627 28135

In this case the value of naked position is a loss of Rs 790 (-2.70%), and applying 'married put' strategy the loss of 7140 (-18%).

Let's calculate return for naked position for randomly selected time period for above selected period (at bearish, sideways and bullish trends (ie.,at 2008,2011 and 2014 respectively.)

The table 4, shows that other than Nifty, the other two products namely, gold and currency (USD/INR) has given positive returns in all the three periods or trends of the market situation, but Nifty has given

higher profits during the bullish period only. Hence it is concluded that the Risk in Gold and USD/INR is lesser than NIFTY in any market situation and USD/INR has given average of 100% profits during any type of market trend.

The table 5 proves that in naked position without any strategy applied, has given returns only in bullish market whereas applying either of the two strategies (ie., Covered call or Married Put), gives better gains in any kind of market trend. In case of Covered Call strategy, it is observed that it gives normal returns without any losses in any type of market situation (ie., bearish / bullish or non-trend). In case of Married Put, it gives better returns (131% and 144%) compared with naked position and covered call, in both bullish and bearish markets which is highly abnormal returns.

FINDINGS

The following were the observations made from the study;

Risk is very low in gold than Currency futures & nifty futures.

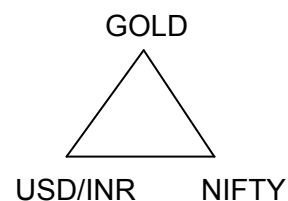
Returns of Gold is greater than Nifty & Currency derivative products, for naked position and hence the above analysis advise us to use the hedging tool to maximize the profits and minimize lossess.

Return analysis clearly shows using strategy gives more profit, though many of them have a wrong assumption that hedging will affect the profit margin. The above situations taking as examples has proved that by adopting the right strategy the results expected can be achieved. Using the MARRIED PUT strategy can be used during uptrend as well as down trend markets.. The Covered call strategy can be used during the side ways or choppy markets. And hence can be concluded that these two strategies (Covered Call and Married Put) are the two top performing

strategies during all types of market trends.

Since the correlation between these three products are strongly matching, the hypothesis get accepted. Since NIFTY and USD /INR has negative correlation, the investors can invest in both products at the same time applying these strategies which will not allow losses for the investors, because NIFTY performed well indicates that the currency market is not doing good ,and finally if the investors, proportionately invest in these three products prudently applying the appropriate strategies it is ensured that they will reap returns considerably.

The comparison of three products reveals that NIFTY and USD /INR has negative correlation except the year 2012. And from this it is visible that these three products have some dependency on each other.



In situations if both NIFTY and USD/INR is not performing well then GOLD is in strong bullish position, hence GOLD can be considered as an alternate investment product, so investing in these three in combination will give more returns to investors.

CONCLUSION

This paper clearly shows the risk involved in the capital market at the same time it is proved that by using the right strategy at perfect time will increase the profits. The covered call strategy gives more returns during the side ways market, the married put strategy is performing well in the down trend and also in up trend markets. By investing in these three

product together the investor can create a risk free portfolio.

'Trading in derivatives is highly risky' - seems to be a misnomer from the analytical results of the study. The study reveals that by using appropriate strategies of "Hedging" as a contrivance, based on the trends of the market movement, shall maximize returns through experience and knowledge gained in derivatives market.

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- www.nseindia.com
- www.mcxindia.com

ANNEXURES**Table - 1****Correlation between the three selected financial products [2008 -2014] – LONG TERM**

Products	correlation	Results
Gold & Nifty	0.62	Directly Proportional
Nifty & USD	0.35	Directly Proportional
Gold & USD	0.77	Directly Proportional

Table – 2**Correlation between the three selected financial products for each year [2008-2014] – SHORT TERM**

Correlation	USDINR / NIFTY	USDINR / GOLD	NIFTY / GOLD
Year			
2008	-0.929341624	0.142669081	-0.496148695
2009	-0.813975099	-0.51900938	0.660556115
2010	-0.54862813	-0.145757853	0.795707845
2011	-0.778897493	0.790898751	-0.852626759
2012	0.01398694	0.642949946	0.636364996
2013	-0.028787484	0.36989664	0.016964224
2014	-0.959508299	0.645550879	-0.600610672

Table - 3**Comparative Risk Analysis of three financial products during the selected period (2008 to 2014)**

SD for NIFTY INDEX	SD for GOLD	SD for USD/INR
905.7692	663.36	649.7

Table - 4**Profit or loss of selected products during three different trend periods**

Selected products for the study	Profit or loss		
	Bearish Trend 2008	Non-trend or choppy market 2011	Bullish trend 2014
NIFTY	-21%	- 2.70%	226%
GOLD	113.00%	105%	88%
USD/INR	101%	100.60%	95%

Table - 5**Return on Nifty futures strategies in three different trend periods**

Nifty futures - strategies	Bearish	Bullish	Sideways
MARRIED PUT	131%	144%	-18%
COVERED CALL	14%	33%	37%
NAKED POSITION	-21%	226%	-2.70%

Oil Price Volatility and its Impact on the Selected Economic Indicators in India

Dr. P. Srithar,
Head PG and Research
Department of Commerce,
NMSSVN College, Madurai.

N.Bairavi, M.Com., Ph.D Scholar
NMSSVN College, Madurai.

G.Mariselvam, M.Com., Ph.D Scholar
NMSSVN College, Madurai.

ABSTRACT

Crude oil is the most widely used energy resource in the world and it accounts for nearly 40% of the global energy demand and its consumption is estimated to be over 85 million barrels per day. As India is one of the non-OPEC (Organization of the Petroleum Exporting Countries) countries it fulfills its domestic demand by way of import as India has a much lower level of production. Any slight fluctuation in the oil prices can have both direct and indirect influence on the economy of the country. This research paper aims to analyze the impact of oil price volatility on the selected economic indicators of India. Growth in GDP, employment, inflation, industry and business, trade etc is the various economic indicator of a country. For the purpose of this study, GDP, inflation and stock market (NSE) are analyzed to know the impact of oil price volatility on it for the period 2003 to 2013. It evaluates the GDP growth performance and assesses the historical trends of the CPI, NSE and oil price in India. The relationship among oil price, gross domestic product, NSE index and inflation is measured with the help of multiple regression models individually. The study has been made by taking GDP, NSE and CPI as dependent variables and oil price as an independent variable. It is found that there is significant positive relationship between oil price and inflation. Gross domestic product and stock market of India are also affected by the oil price.

Keywords: OPEC, GDP, NSE, CPI, Crude oil.

INTRODUCTION

Crude oil has been vital to the world economy since its discovery. Recently international crude oil price has experienced a sharp increase. Most countries are significantly affected by the hike in the oil market, either as producers, consumers, or both. In 2008, oil provided about 34% of the world's energy needs, and in the future, oil is expected to continue to provide a leading component of the world's energy mix. As India is one of the non- OPEC (Organization of the Petroleum Exporting Countries) countries, it imports crude oil to fulfill the domestic requirements as it has much lower level of production. Oil and gas contribute to around 45% of country's total energy consumption. India occupies the 4th place in the list of world's largest oil importers. It imports 30, 60,000 billion barrels per day. Now-a-days, every trader in India thinks twice before trading in

crude oil because of its fluctuating levels. There are innumerable factors which influence the price movement of crude oil throughout the world. As far as the price of crude oil is concerned, there are a number of factors responsible for influencing the price. They are as follows:

OPEC output, supply and spare capacities.

Increased demand from emerging and developing countries.

Geopolitics.

Currency fluctuations.

Weather conditions.

Speculative buying and selling.

Changes in the refining sector, for example, a drop in the refinery utilization rate.

CRUDE OIL AND INDIA: AN OVERVIEW.

Crude oil production recorded a decline of 1.6 percent in March 2014 over

March 2013. The nation's 22 refineries produced 18.63 million tons of fuel last year, whereas it was 18.95 million tons in the corresponding period last year. Production performance of Crude oil for the month of April, 2014 remained 3104.326 Thousand Metric Ton against the target of 3121.351 TMT. Oil imports of India during April, 2014 were valued at US\$ 12977.8 million which was 0.6 percent lower than oil imports valued at US\$ 13053.5 million during the previous year. On the other hand India overtook Japan to become the third largest crude oil importers in the world. India imported 3.86 million barrels of crude oil per-day in the year 2013. As India imports about 80 percent of its crude oil requirements, the international oil prices necessarily have an impact on the domestic prices of petroleum products and other commodities. Based on the recommendations of the expert group and decisions taken in the meeting of the Empowered group on ministers, the government decided on: a) the growing imperative for restoring fiscal balance of Government's budget; (b) the need for reducing the subsidy burden on certain petroleum products in order to allocate more funds to social sector schemes; (c) improving the financial health of the Public Sector Oil Marketing Companies which are instrumental in maintaining the country's energy sector. The international crude oil price of Indian Basket as published by Petroleum Planning and Analysis Cell (PPAC) under the Ministry of Petroleum and Natural Gas went up to US\$106.64 in the first week of June 2014.

LITERATURE REVIEW

Various studies on the subject of oil price volatility, inflation, Indian stock market and growth have been made. The majority of the research work has been done internationally. Some of these important empirical studies have been reviewed critically to develop objectives in the

context of India, and further to analyze it and draw some important conclusions and policy recommendations.

Kapil Jain (2013) conducted a study on oil price volatility and its impact on the selected economic indicators in India. The study measures the relationship between crude oil price and selected macroeconomic variables i.e. NSE and CPI. The period 6 years from 2007-2008 to 2012-2013 was taken for analysis. The data was analyzed by using regression analysis. The study found that there is a significant positive relationship between Crude oil price and inflation in India. On the other hand, Stock market of India (NSE) was also affected by the changes in the crude oil price.

Syed Kaiser Mukhtar (2011) had made a study on Crude oil price volatility-role of Speculation, Market Fundamentals and its effect on Indian Economy. The paper analyzed the crude oil price trends witnessed in recent years along with the high level of volatility associated with it. The relationship between crude oil prices, market fundamentals and speculation were analyzed. The overall impact of rapidly changing crude prices on India with respect to its inflation rate, external balances and overall growth was also studied by him. The empirical data ranging from 2000 to 2008 was taken to establish the driving force behind crude price fluctuations especially the rise. It has been established that the changes in demand and supply throughout this period cannot justify more than 100% increase in crude oil prices and hence speculative trading has acted as the major force behind crude price hike.

Similarly another important study by **Muhammad Akram (2011)** analyses empirically the effect of crude oil price changes on the economic growth of Indian – sub continent (India, Pakistan and Bangladesh). Gross Capital Formation and

Labour Participation Rates are the variables taken for the study. Multivariate Vector Auto Regression (VAR) analysis followed by causality test and Impulse Response Function (IRF) were used. The causality test results show that only India's economic growth is significantly affected when crude oil price decreases. The impact on economic growth is negative when the crude oil prices increase but it is insignificant. In case of Pakistan, crude oil price increase is negative for the first year and positive for the second year. The impact on economic growth is positive when the crude oil prices decrease insignificantly. Crude oil price change has no significant impact on the economic growth of Bangladesh.

Ruhul Salim has made a study of the volatility of the impact of crude oil price on Asian emerging economies like China, India, Indonesia, Malaysia, Philippines and Thailand. Oil prices, GDP growth and inflation are the variables taken for the study. Vector Auto Regression analysis followed by Granger-Causality test has been used. In China oil price volatility impact GDP growth in the short run and both GDP growth and inflation are strongly tied together. Impact analysis for India shows that oil price volatility has significant negative impact on GDP growth and positive impact in inflation. The result of Indonesian study reveals that oil price volatility impact both GDP growth and inflation. As for as Malaysia is concerned, oil price volatility impacts GDP growth. Like all other economies GDP growth and inflation seem to be strongly tied together in the Malaysian economy. In Philippines, oil price volatility impacts inflation; and GDP growth and inflation are closely related in the short run. For Thailand, oil price volatility impacts output growth for the whole study period. However, after the Asian financial crisis the impact seems to disappear.

OBJECTIVES:

The study is aimed to measure the relationship between Crude Oil price and Indian Stock Market, Gross Domestic Product and Inflation.

To analyze the impact of Crude Oil price changes on Gross Domestic Product, Indian Stock Market and Inflation Rate.

RESEARCH HYPOTHESIS:

a. Null hypothesis:

H_0 = There is no significant relationship between Crude oil Price and Gross Domestic Product.

Alternative Hypothesis:

H_a = There is a significant relationship between Crude oil Price and Gross Domestic Product.

b. Null hypothesis:

H_0 = There is no significant relationship between Crude oil Price and Indian Stock market

Alternative Hypothesis:

H_a = There is a significant relationship between Crude oil Price and Indian Stock market.

c. Null hypothesis:

H_0 = There is no significant relationship between Crude oil Price and Inflation.

Alternative Hypothesis:

H_a = There is a significant relationship between Crude oil Price and Inflation.

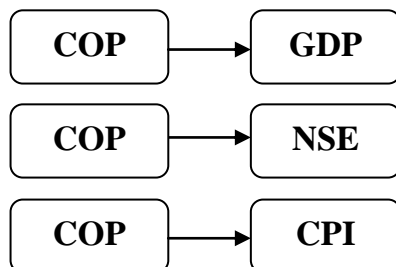
RESEARCH METHODOLOGY

Data collection

The basic purpose of this paper is to empirically analyze the impact of oil price volatility on Indian GDP, Stock Market and Inflation. Study covers the time period from

2003 to 2013. As trading economics is considered as an authentic source of data collection, the secondary data of the mention variables is collected from this reliable source. To examine the impact of oil price volatility on GDP, NSE and Inflation individually. Theoretical models have been framed.

Theoretical framework



$$GDP = \alpha + COP\beta + \mu \text{ -----(1)}$$

$$NSE = \alpha + COP\beta + \mu \text{ -----(2)}$$

$$CPI = \alpha + COP\beta + \mu \text{ -----(3)}$$

Where,

COP = Crude Oil Price

GDP = Gross Domestic Product

NSE = National Stock Exchange

CPI = Consumer Price Index

The aforementioned simple regression models were individually run on SPSS to find out the impact of COP on GDP, NSE and CPI of India. In this model COP is measured as independent variable whereas NSE, CPI and GDP are used as dependent variables. To estimate the impact, simple regression model is applied over the period 2003-2013.

EMPIRICAL RESULT:

Impact of oil price volatility on GDP:

The impact of oil price on GDP is measured with the help of simple regression analysis. The fixed regression models,

$$Y = a + bX$$

Where,

$Y = \text{GDP}$, $X = \text{oil price}$, $b =$ Regression coefficient, $a = \text{Constant}$ $e =$ error term. The results are given in the following table 1,

It could be observed from the table 1 that, the correlation value is 0.947 which denotes a high degree of positive correlation between oil price and GDP. In order to ascertain the extent of the impact of oil price on GDP, the following null hypothesis was framed "There is no significant relationship between oil price and GDP". To test the above hypothesis regression analysis was used.

The slope coefficient of the input (oil price) in the regression analysis has positive impact on GDP. 1% of change in the oil price will bring out 0.947% change in GDP when other variables are constant. As the value of F is 77.979 and the value of P is too small (i.e.) 0.000, we can deduce that model is overall significant and the results are not by chance and hence the null hypothesis framed is to be rejected. It can be concluded that oil price has a positive impact on the Gross Domestic Product.

Impact of oil price volatility on NSE:

The impact of oil price on NSE is measured with the help of simple regression analysis. The fixed regression models,

$$Y = a + bX$$

Where,

$Y = \text{NSE}$, $X = \text{oil price}$, $b =$ Regression coefficient, $a = \text{Constant}$ $e =$ error term. The results are given in the following table 2,

It has been understood from the table 2 that there is a high degree of positive correlation that (0.916) exists between oil price and NSE. In order to ascertain the extent of impact of oil price on NSE, the following null hypothesis was framed "There is no significant relationship

between oil price and NSE". The hypothesis was tested through regression analysis.

The slope coefficient of the input (oil price) in the regression analysis has positive impact on NSE as shown by the beta value. 1% of change in the oil price will bring out 0.916% change in NSE when other variables are constant. As the value of F is 46.798 and the value of P is too small (i.e.) 0.000, we can deduce that the model has overall significance and the results are not by chance and hence the null hypothesis framed is to be rejected. It can be concluded that oil price has a positive impact on the Indian Stock Market.

Impact of oil price volatility on CPI:

The impact of oil price on CPI is measured with the help of simple regression analysis. The fixed regression models,

$$Y = a + bX$$

Where,

$Y = \text{CPI}$, $X = \text{oil price}$, $b = \text{Regression coefficient}$, $a = \text{Constant}$, $e = \text{error term}$. The results are given in the following table 3,

The table 3 reveals the correlation value as 0.787 which implies a positive correlation between oil price and CPI. In order to ascertain the extent of impact of oil price on CPI, the following null hypothesis was framed "There is no significant relationship between oil price and CPI". To test the above hypothesis regression analysis was used.

The slope coefficient of the input (oil price) in the regression analysis has positive impact on CPI. If 1% of change in the oil price occurs, it will bring out 0.787% change in CPI by when other variables are constant. As the value of F is 14.674 and the value of P is too small (i.e.) 0.004, we can deduce that the model has overall

significance. At this stage, the framed null hypothesis is rejected.

CONCLUSION

Indian economy is a developing economy and to meet its major crude oil requirement, India has to mainly rely on imports. Oil price has positive impact on the Gross Domestic Product, Indian Stock Market and Consumer Price Index besides it has more impact on GDP. Central bank across Asia and in India also has raised rates many times to fight against inflation. The data collected for inflation and crude oil prices also indicate that when crude oil prices move up inflation rate also moves in the same direction in India. Correlation and regression analysis has been put on to unveil the relationship, and the test exposes a positive correlation between crude oil prices and NSE (national stock exchange) and in regression model to the coefficient is significant. Another relationship between crude oil prices and inflation is also explored, and the result of which indicates a moderate relationship between two variables. Furthermore, oil price volatility has major impact on Indian GDP.

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TABLES**Table 1:**

Variables	Coefficients	T Value	P Value	F Statistics	Correlation(r)	R²
Oil Price	0.947	8.831	0.000	77.979	0.947	0.897

Table 2:

Variables	Coefficient Beta	T Value	P Value	F Statistics	Correlation (r)	R²
Oil Price	0.916	6.841	0.000	46.798	0.916	0.839

Table 3:

Variables	Coefficients Beta	T Value	P Value	F Statistics	Correlation(r)	R²
Oil Price	0.787	3.831	0.004	14.674	0.787	0.620