EDITOR IN CHIEF
AMIT GUPTA

PUBLISHER
MANISH GUPTA

EXECUTIVE EDITOR
R.P. MAHESHWARI

MANAGING EDITOR
RAVI K. DHAR

ASSOCIATE EDITORS
SATISH SETH
S.K. DOGRA

ASSISTANT EDITOR
ANJALI SINGH

EDITORIAL ADVISORY BOARD
ROGER R. STOUGH
Associate Dean and Professor of Public Policy, George Mason University, Fairfax, Virginia, U.S.A
DAVID ARRELL
University of Portsmouth
Portsmouth PO12 UP, England
WOLFGANG VEIT
Professor, Fachhochschule Koln / Cologne University
D.K. BANWET
Deptt. of Mgmt, IIT Delhi

PRODUCTION ASSISTANT
ISHWARI SUYAL

Editorial Offices & Subscriber Service
Strategic Consulting Group
OCF Pkt-9, Sector-B, Vasant Kunj
New Delhi-110070
Phone: 40619300, Fax :40619333
E. Mail : jims.8m@jagannath.com
Website: www.jimsd.org
Available Online at www.indianjournals.com
Online ISSN No: 0973-9343
Exclusively Marketed and Distributed by
indianjournals.com

Editor's Desk

For a majority of Indians, terms like globalization and Multi National Companies conjure up visions of foreign companies, with origins in USA, Germany, France, Japan and lately even South Korea and China. A key challenge for the reverse story of Indian brands expanding overseas is the negative perception of "Made in India". Innovations from emerging markets like India find it difficult to make the transition to developed markets, with companies struggling to establish acceptance of their brands, the major roadblock being the "country of origin". Consumers tend to associate certain products with a country or geographies, at times these associations could develop into certain stereotypes about products of certain geography, leading to province paradox. Perfumes from France, Chocolates from Switzerland, Cars from Germany and Vodka from Russia are examples of how certain products and their images are tied up irrevocably with their countries of origin. Experts may cite examples of IT services, Yoga, Tea, Bollywood, Indian food and handicrafts as shining examples of positive identification with India as country of origin. These are but exceptions to the rule and a closer examination of the success stories will reveal that the cultural ideas and traditional products are the ones which have travelled better. The nation's role has been studied earlier. Amongst the better known studies was Michael Porter's "Diamond Framework" to help understand the factors that contributed to the competitive ability of a nation. In 2005, Simon Anholt developed the conceptual framework to measure the global perceptions of countries across several dimensions of culture, governance, people, export, tourism, investment and immigration. The Country Brand Index for the year 2014-2015 puts India in the 50th place in a survey of 75 nations.

In order to provide support to the Indian brands, the government has established International Brand Equity Foundation (IBEF), a trust formed by the Ministry of Commerce and Confederation of Indian Industries (CII) to promote the "Made in India" brand and awareness about Indian products in the overseas market. The turnaround of the "Made in Japan" image of low quality and shoddy products to that synonymous with excellent quality and reliability also finds parallels in the recent emergence of South Korean brands. With consistent efforts and focus it may well be another encore in the "Made in India" image in the times to come.

(Ravi K. Dhar)

As an active practitioner and scholar in the field of management, you must have experienced the need for a journal with conceptual richness, which is normally missing in various business magazines. In response to this need, Strategic Consulting Group, a team of competent and dynamic professionals, publishes a management journal entitled **8M**.

8M is a quarterly management journal, contributions to which are made by academics, consultants, and management practitioners for covering various areas of managing **men, machine, money, and the like**. A fully refereed journal, **8M**, explores the latest research and innovative thinking in management. The journal has an international focus and offers a variety of perspectives from around the world to help you gain greater insight into current management theory and practice.

Views and factual claims expressed in individual contributions are personal to the respective contributors and are not necessarily endorsed by the editors, their advisors, or the publishers of the journal.

Guidelines to Authors

JIMS **8M** solicits articles and papers on contemporary business issues by academicians, practicing managers and students. The journal is published with the aim of providing well conceptualized and scholarly perspectives, edited for easy reading by managers. Authors may adopt the tone and content of their articles accordingly.

1. Articles must be sent by e-mail to *jims.8m@jagannath.org*.
2. The length of the article should be between 5000 and 7000 words. Each article must be accompanied with an abstract of 150-200 words.
3. All drawings, graphs, and tables should be provided on separate pages.
4. The author's name, designation, and affiliation must be provided on a separate sheet.
5. Editorial decisions will be communicated within a period of 4 weeks of the receipt of manuscript.
6. References must follow APA style sheet.
7. 1st author will receive one copy of the journal.
8. Articles submitted for consideration in **JIMS 8M** should be accompanied with a declaration by the author that they have not been published or submitted for publication elsewhere.

SUBSCRIPTION FORM

Subscription Rates-2014

Subscription Rates (4 Issues)		
CATEGORY	**Print***	**Online**
Institutions / Individuals	1000.00	674.00
Students**	300.00	200.00
Single Copy / Article	300.00	150.00
Foreign (USD)		
CATEGORY	**Print***	**Online**
Institutions / Individuals	125.00	100.00
Students**	100.00	80.00
Single Copy / Article	25.00	25.00

Terms & Conditions:

1. *Print** Subscription includes online access.
2. *Students*** should send a photocopy of their identity cards.
3. Print Subscription is Volume Based, whereas Online Subscription is Calendar Year Based and is subject to renewal.
4. Online Subscription includes current subscriptions + back files from 2005, if available.
5. Indian Subscribers to add Rs.50.00 for Non-Delhi Cheque.

Ordering Information

Subscriptions: Payment has to be made in favor of "indianjournals.com " payable at New Delhi, India.

The Business Manager
JIMS 8M
indianjournals.com

Dear Sir,

I/We would be interested in subscribing to your management journal **JIMS 8M** for ____________ year(s).
I/We would be interested in availing myself/ourselves of the subscription offer in the___________ category.
I/We am/are enclosing a cheque/DD No.______________ dated ____________drawn on ____________________ (specify Bank), favouring **indianjournals.com** for Rs.________________.

My/Our particulars are as under:

Name : Mr./Ms./M/s: ______________________________
Profession : ______________________________
Address : ______________________________
____
Tel No: __________________ *Fax:* __________________

For subscription please contact :

indianjournals.com
B-9, Basement, Local Shopping Complex, "A" Block
Naraina Vihar, Ring Road, New Delhi-110 028
Ph: 91-11-25770411, 45055559
Fax : 91-11-25778876

 DOI No. 10.5958/0973-9343.2014.01238.1

A STUDY OF FACTORS AFFECTING WORK LIFE BALANCE OF WOMEN EMPLOYEES AT BANGALORE CITY

K. Thriveni Kumari★ V. Rama Devi ★★

Worklife balance is the major problem especially experienced by women employees now-a-days. Today it is necessary to have dual earners in every family. It is observed that many women are working in various fields to meet their family requirements. The aim of the present study is to analyse the factors of worklife balance of women employees in various sectors in Bangalore. Factor analysis is used as a statistical tool for the study. The data is collected primarily from a sample of 340 women employees working in different sectors like education, banking, insurance, IT, BPO, marketing and medicine. The findings show that there are 8 major factors with eigen value greater than 1.0. The factors with highest scores are demographic variables, nature of work, personal relationships, WLB policies, Work environment. The factors with the low scores are Stress management, Cafeteria work life balance and burned out.

Traditionally the role of women used to be of cooking, cleaning, raising children etc. They were looked upon as care giver or as home keeper and were denied access outside home. But times have changed and women have made their mark in every field. Women are ready to take up challenges in any sphere. The proportion of women in workforce is increasing and it is a major challenge for them to balance the competing demands of work and family. Women are reporting that their lives are becoming a juggling act, which includes multiple responsibilities at work, heavy meeting schedules, business trips, business trips on top of managing the daily routine responsibilities of life and home.

The main objective of the study is to analyse various factors of work life balance of women employees at various sectors like BPO, IT, Education, Banking, Medicine, Marketing and insurance at Bangalore. The expression WLB was first used in the middle of 1970's to describe the balance between an individual's work and personal life. "Work-Life-Balance can be defined as the perfect integration between work and life both not interfering with each other." According to Julie Morgensterm "Work Life Balance is not about the amount of time you spend working and not working. Its more about how you spend your time working and relaxing, recognising that what you do in one fuels your energy for the others."

Conceptual framework of work life balance:

Based on study there are many factors of work life balance. The following is the conceptual framework build to analyse about the factors of work life balance. Major factors which effect the work life balance of women employees are Demographic factors such as age, income, experience, marital status, type of family etc., nature of work, organisational policies, stress, personal relationships etc. Based on these factors the outcome of the work life balance such as absenteeism, turnover, organisational commitment and job satisfaction depends. The following diagram explains about the framework of work life balance.

I. Review of Literature

Extent research was done on work life balance of women employees. Work life balance is vey important to women when compared to men as women undertake majority of house hold duties and more likely to suffer from role overload and moreover likely to have more sacrifices with regard to having children (Broad Bridge, 2009). It is found that dimensions of working conditions and autonomy in tele work highlights the facts that there is a risk of polarisation according to the gender (Diane-Gabrielle (Trembley, 2002). This is the reason why majority of the women feel stress as a major factor of work life balance which leads to various physical and mental disturbances there by affecting their productivity (Aiswarya & Ramasundaram, 2012).

Major Factors of work life balance

There are some of the identified factors affecting work family conflict among women executives like

i) Harmony in home and office.
ii) Organisational support.

★ **Assistant Professor, Department of Management Studies, S.E.A. College of Engineering & Technology, Bangalore (Karnataka)**
★★**Professor, Department of Management Studies, K.L. University, Vaddeswaram, District Guntur, (Andhra Pradesh)**

iii) Family expectations
iv) Parenting effect and professional skills.

It is argued that women perceived gender role attitude and spill over between work and family roles as most important factors affecting career (Sandhu & Mehta, 2006). Job satisfaction, physical health problem, work life conflict and turnover intentions are also some identifies outcome factors of work life balance of women employees. (Sang, Andrew & Dainty, 2007).

Nature of work

Though the woman is employed in full time or part time or stay at home also, she faces many challenges to make different choices in involving their children and their careers. (Brykman, 2007). Some say that work life balance is difficult to achieve for full time workers due to their work schedules and especially for those who have children (Williams, 2008). Due to this many suggest that part time work would help women employees to balance their work and family (Higgins, 2000). WLB of part time women employees would be beneficial on the way in which managers employed on part-time and other flexible contracts operate successfully in organisations with the aim of championing alternative working patterns and breaking down traditional long hours cultures which act as a barrier to women and part time workers (Tomlinson & Durbin, 2009). But there are some women employees who argue that nightshifts are also happy and socially acceptable due to favourable conditions, in terms of security, in terms of monetary compensation and provisions of fringe benefits (Angeelin, 2009).

Demographic Factors

Women with academic parental role found that children are the major responsibilities that affect their career and family (Comer & Doe, 2006). Women with dependent children are unable to balance their life than those who do not have dependent children (Woodward, 2007). Women with caring responsibilities were consistently viewed as less productive and more likely to leave their employment (Waumsley & Houston, 2009). In fact working women having low capacity to achieve work-life balance may lead to complex social problems (Kodagoda, 2010). There are two commonly held beliefs about the work-home interface for women, particularly managerial women, are prone to “super-mother” or “super-manage” in an effort to balance both career and child-rearing, and these demands diminish markedly when children reach school age. (Mooree, Greenberg, Sikora & Grunberg, 2007). There should be time flexibility in relationship to work life balance among female workers with school aged children (Hilbreckt, Shav, Johson & Andrey, 2008). Work conditions are found to play a larger role than family characteristics in accounting for work family conflict, both in the country level models and in the pooled models (Gallie & Russell, 2009). Alternatively it is examined that social support is more important in reducing family and work conflict (Van Daalen & Willemsen, 2006).

Stress

There should be some strategies build to overcome the factors of work life balance. Especially stress relief strategies and their use by women with young children are highly dependent on the situation. Some common strategies were viewed positively as behaviours the women wished to retain, but other strategies such as crying, shouting or drinking alcohol involved behaviours with which they were less happy (Gamble & Bava, 2010).

Organisation Policies

WLB policies aimed at reduced working hours are often assumed to be of particular interest to workers with family responsibilities such as young children (Maclnnes, 2005). It is suggested that the need for jobs that can be finished within regular working hours and that give employees opportunities for job control can enable a balance to be found between work load and recovery and represent a prerequisite for occupational health and well-being (Rau & Triemer, 2004). Explored coping strategies devised by executive women in family relationships to advance their career and to maintain career/family balance. Adaptive strategies facilitate engagement in career and family, even in challenging gender environments, (Souha & Ritchey, 2009). A survey showed that there is a relationship between the gender attitudes regarding women’s timing of career and children and women’s ability to balance work and family demands (Sullivan, 1992). The ability to generate income in a fulfilling job and the desire to provide the best for one’s children, giving them the care and nurturing they need, do not have to be mutually exclusive policies that can help parents find the right balance (Adema, 2005). Work life balance today directly impact the retention of top executive talent. An unhealthy work life balance will lead to increase stress, strain on personal relationships and a lack of personal fulfillment (Taj, 2011).

Objective of the Study:

The main objective of the study is about the factors of work life balance of women employees in different sectors like education, medicine, BPO, IT, marketing, insurance at Bangalore

II. Research Design & Methods

Sample design:

The researcher selected women employees working in various sectors like banking, insurance, IT, BPO, marketing, medicine and Education as a sample for the study. The women employees will constitute universe for the study.

Sample size:

The sample size comprised of 340 working women employees selected form various professions and jobs. The sample respondents include doctors, professors, software engineers, customer relationship officers, marketing executives, bank employees etc.

Sample method:

The method of sample used for the research study is stratified random sampling method.

Data collection:

Both primary and secondary data is collected for the purpose of the study. The survey method will be used to gather primary information for the study. The required data will be collected from the sample respondents with the aided questionnaire designed for the purpose and through personal interviews also. The secondary data was collected through books, journals, magazines, internet, articles related for the study.

Questionnaire:

Based on the objective of the study, close ended questionnaire is prepared. The questionnaire is prepared by using dichotomous (YES/NO), multiple choice and Likert Scale method depending on the type of question asked. The respondents were asked to state their level of agreement or disagreement on 5 point scale where 1= strongly agree; 2= agree; 3= neutral; 4= disagree; 5= strongly disagree.

Hypothesis

Ho: There is no significant relationship among variables in factors

Há: There is significant relationship among variables in factors

Data Analysis

The factor analysis is used as the statistically tool for analysing the data collected.

III. Results & Analysis

A factor is a linear combination of variables. This is a multivariate statistical technique that can be used to analyse the interpersonal relationships among a large number of variables and to explain these variables in terms of underlying assumptions. It was based on principal component method. The researcher has applied the factor analysis to study about the factors of the work life balance of women employees in different sectors. The analysis showed how the variables are correlated to each other. There are 22 variables considered for the study and 8 major factors included for analysing the concept. The following figure-2 shows the 8 major factors of the study

Explanation and Interpretation:

As per the analysis conducted on the factors the following are the results of the study. KMO and Bartlett's Test is established in order to know the strength of the factor analysis solution. The above table 1 gives the results that KMO measure of sampling adequacy is .834 which is greater than 0.5, indicating that factor analysis could be used for the given set of data. Further, Bartlett's test of sphericity testing for the significance of the correlation matrix of the variables indicates that the correlation coefficient matrix is significant as indicated by the p value corresponding to the chi-square statistics. The p value is 0.000, which is less than 0.05. This shows that the correlation matrix of variables is significant.

Explanation:

Table 2 presents factor matrix (component matrix). The result includes the correlation coefficient between the relevant factor score with the original standardized variables. The correlation coefficient between the factor score and the variables included in the study is called factor loadings which are presented in the above table. The factor loadings are used to compute Eigen values for each factor.

Factor 1: Demographic variables

The analysis of the results of the means and factor analysis shows that demographic variables are very important for factor for work life balance. From among the various factors stated by the employees most of the women employees gave a high value to demographic variables like age, marital status, experience, family dependents, annual income and type of family. It indicated that demographic variables are important factors for work life balance of women employees.

Factor 2: Nature of work

No doubt that we can say that nature of work is also an important factor for work life balance. In the analysis the women employees gave a high value to the nature of work. They express that they were always worried about their work. Often they feel depressed because of work. They are feeling physically ill due to work and moreover they are not having fun and entertainment to come out of work stress. All these indicate that nature of work plays a major role in work life balance of women employees.

Factor 3: Personal Relationships

Women employees believe that to have good and healthy work life balance they should have healthy personal relationships. They say that they do ever miss out quality time with family and friends because of pressure of work. Therefore this should also be considered as one of the important factor of work life balance for women employees.

Factor 4: Work Life Balance Policies

To be a successful organisation, it should build good work life balance policies. Women employees say that good work life balance helps them to motivate them in the organisation. Therefore work life balance policies are another important factor for work life balance.

Factor 5: Work Environment

Of course work environment is one of the important factor in work life balance. The analysis shows that if the women employees feel happy about the time spent at work and if they feel that company has sufficient policies to balance their work life can create good working environment and naturally it can reduce the struggle for work life balance.

Factor 6: Cafeteria work life balance policies

Cafeteria (flexibility) work life balance policies are also important factor for work life balance of women employees. The analysis of the factor shows that employees feel happy if the work life balance policy in the organisation is customised to the individual needs also. It means that there should be cafeteria in the policies.

Factor 7: Stress Management

One of the major factors in work life balance is stress management. Often the women employees feel stress because of their work at office and also at home. Due to this they say that their job stress is making them a sever impact on work and family. Organisations should see that they manage and avoid the stress by maintaining some policies like gymnasium, yoga, meditation etc.

Factor 8: Burn Out

It is most exhaustion factor of work life balance. Women employees of the study says that their work stress since they has started made them psychologically drained. Therefore organisation should see that they look to reduce stress for employees to some extent.Therefore, the organisation should look at reducing stress for employees to certain extent.

The above table 3 gives the output of total variance. The table explains the total variance contributed by each component. We can see that the percentage of total variance contributed by first component is 24.009, second component is 10.501, third component is 6.650, fourth component is 6.375, fifth component is 5.753, sixth component is 5.555, seventh component is 4.939 and eighth component is 4.590. From the above table it is also clear that there are total 8 distinct components for the give set of 22 variables.

Scree Plot

The screen plot gives the number of components against the Eigen values and helps to determine the optimal number of components. The components having steep slope indicates that good percentage that good percentage of total variance is explained by that component, hence the component is justified. The following screen plot, the first 8 components have steep slope that is they are greater than one and later the slope is shallow that is less than one. This indicates the ideal number of components is 8.

The above table 4 gives the summary of the results of the factor analysis. The items deleted indicate that they do not come under any of the component factors.

IV. Conclusion

From the above analysis and findings we can conclude that

- Demographic variables are the major factors of the work life balance of women employees in Bangalore.
- The other factors of the study which has high score in factor analysis are nature of work, personal relationships, work balance policies and work environment.
- The factors which have less score in the loadings are stress management, cafeteria work life balance and burned out.

As a result demographic variables such as age, marital status, experience, income and type of family have higher

impact on work life balance of women employees comparative to other variables as per the study.

References

Adelina Broadbridge (Jul 2009), "Flexible Work Practices: Women Only?" The International Review of Retail, Distribution and Consumer Research, London, Vol. 19, Iss. 3; pg. 289.

Aiswaraya.B, Ramasundaram.G (January 2012), "The function of Work Life Conflicts as a mediator between work exhaustion and job stress", The IAMS Journal of Business Spectrum, Vol.V.No.1, pg: 52-68.

Beth Brykman (Spring 2007), Life Balance: Can We Have It All? New England Journal of Public Policy, Boston:, Vol. 22, Iss. 1/2; pg. 183.

Cara Williams (2008) , Work-life balance of shift workers, Perspectives on Labour and Income, Ottawa:, Vol. 20, Iss. 3; pg. 15, 12 pgs.

Christopher Higgins, Linda Duxbury, Karen Lea Johnson (2000), Part-time work for women: Does it really help balance work and family? Human Resource Management, Hoboken: Vol. 39, Iss. 1; pg. 17.

D Maria Angelin Jayanthi, D Venkatramaraju (2009), Nightshift Hurdles for Women in BPO with reference to Chennai City, ASBM Journal of Management, Bhubaneswar:, Vol. 2, Iss. 2; pg. 114, 10 pgs.

Debra R. Comer, Susan Stites-Doe (Sep 2006), Antecedents and Consequences of Faculty Women's Academic-Parental Role Balancing, Journal of Family and Economic Issues, New York: Vol. 27, Iss. 3; pg. 495.

Diana Woodward (2007), Work-life balancing strategies used by women managers in British "modern" universities, Equal Opportunities International, Patrington:, Vol. 26, Iss. 1; pg. 6.

Diane-Gabrielle Tremblay (2002), Balancing work and family with telework? Organizational issues and challenges for women and managers, Women in Management Review, Bradford: Vol. 17, Iss. 3/4; pg. 157, 14 pgs.

Duncan Gallie, Helen Russell, (Sep 2009). Work-Family Conflict and Working Conditions in Western Europe, Social Indicators Research. Dordrecht: Vol. 93, Iss. 3; pg. 445, 23 pgs.

E.Jeffrey Hill, Vjollca K. Martinson, Maria Ferris, Robin Zenger Baker (2004), Beyond the Mommy Track: The Influence of New-Concept Part-Time Work for Professional Women on Work and Family, Journal of Family and Economic Issues, New York:, Vol. 25, Iss. 1; pg. 121.

Geertje van Daalen, Tineke M Willemsen, Karin Sanders (Dec 2006), Reducing work-family conflict through different sources of social support, Journal of Vocational Behavior. Orlando: Vol. 69, Iss. 3; pg. 462.

Geraldine Grady, Alma M. McCarthy (2008), Work-life integration: experiences of mid-career professional working mothers, Journal of Managerial Psychology. Bradford:, Vol. 23, Iss. 5; pg. 599.

Gill Kirton (2006), Alternative and parallel career paths for women: the case of trade union participation, Work, Employment & Society. London: Mar 1,Vol.20,Iss.1; pg. 47.

H S Sandhu, Ritu Mehta (2006), Work-family conflict among women executives in service sector: an empirical study, Journal of Advances in Management Research, Bingley: Vol. 3, Iss. 2; pg. 68.

Ines Hardoy, Pal Schone (2006), The Part-Time Wage Gap in Norway: How Large is It Really? British Journal of Industrial Relations, London: Jun, Vol. 44, Iss. 2; pg. 263.

Jennifer Tomlinson, Susan Durbin (2010), Female part-time managers; Work-life balance, aspirations and career mobility, Equality, Diversity and Inclusion: An International Journal. Birmingham:, Vol. 29, Iss. 3; pg. 255.

Joanna Clare Gamble, Christina Maree Bava, Mark Wohlers (2010), Mood foods: working mothers' receptiveness to food with stress-relief properties, British Food Journal. Bradford:, Vol. 112, Iss. 3; pg. 217.

John MacInnes (2005), Work-Life Balance and the Demand for Reduction in Working Hours: Evidence from the British Social Attitudes Survey 2002, British Journal of Industrial Relations, London: Jun, Vol. 43, Iss. 2; pg. 273.

Julie A Waumsley, Diane M Houston (2009), Flexible Working, Professional Success and Being Female: Are They Incompatible? Review of European Studies, Toronto: Dec, Vol. 1, Iss. 2; pg 39,15pgs.

Katherine Hudson Walker (2007), Making the Federal Government Work for Women, Public Manager, Potomac: Spring, Vol. 36, Iss. 1; pg. 63, 4 pgs.

Manu Kaushik (2011), Back in the hunt; The slowdown

has ended but core sector PSUs remain favoured recruiters for some of India's best talent, Business Today, New Delhi: Feb 6.

Margo Hilbrecht, Susan M Shaw, Laura C Johnson, Jean Andrey (2008), 'I'm Home for the Kids': Contradictory Implications for Work-Life Balance of Teleworking Mothers, Gender, Work and Organization, Oxford: Sep, Vol. 15, Iss. 5; pg. 454.

Renate Rau, Antje Triemer (2004), Overtime In Relation To Blood Pressure And Mood During Work, Leisure, And Night Time, Social Indicators Research. Dordrecht: Jun, Vol. 67, Iss. 1/2; pg. 51.

Sarah Moore, Edward Greenberg, Patricia Sikora, Leon Grunberg (2007), Managerial women and the work-home interface: does age of child matter? Women in Management Review, Bradford:, Vol. 22, Iss. 7; pg. 568.

Souha R. Ezzedeen, Kristen G. Ritchey (2009), Career advancement and family balance strategies of executive women, Gender in Management, Bradford: Vol. 24, Iss. 6; pg. 388.

Sullivan, Sherry E. (1992), Is There a Time for Everything? Attitudes Related to Women's Sequencing of Career and Family, The Career Development Quarterly, Alexandria: Mar, Vol. 40, Iss. 3; pg. 234.

Thilakshi Kodagoda (2010), How do professionals and managers combine mothering with employment? Western theories in the Sri Lankan experience, International Journal of Management Practice, Olney: Vol. 4, Iss. 2; pg. 169.

Willem Adema (2005), Babies and bosses, Organisation for Economic Cooperation and Development, The OECD Observer. Paris: Mar, Iss. 248; pg. 9, 3 pgs.

Yasmin Taj (2011), Balance it right, Times of India, ascent, August 31st, pg.1

Figure 1: Conceptual Framework of Work Life Balance

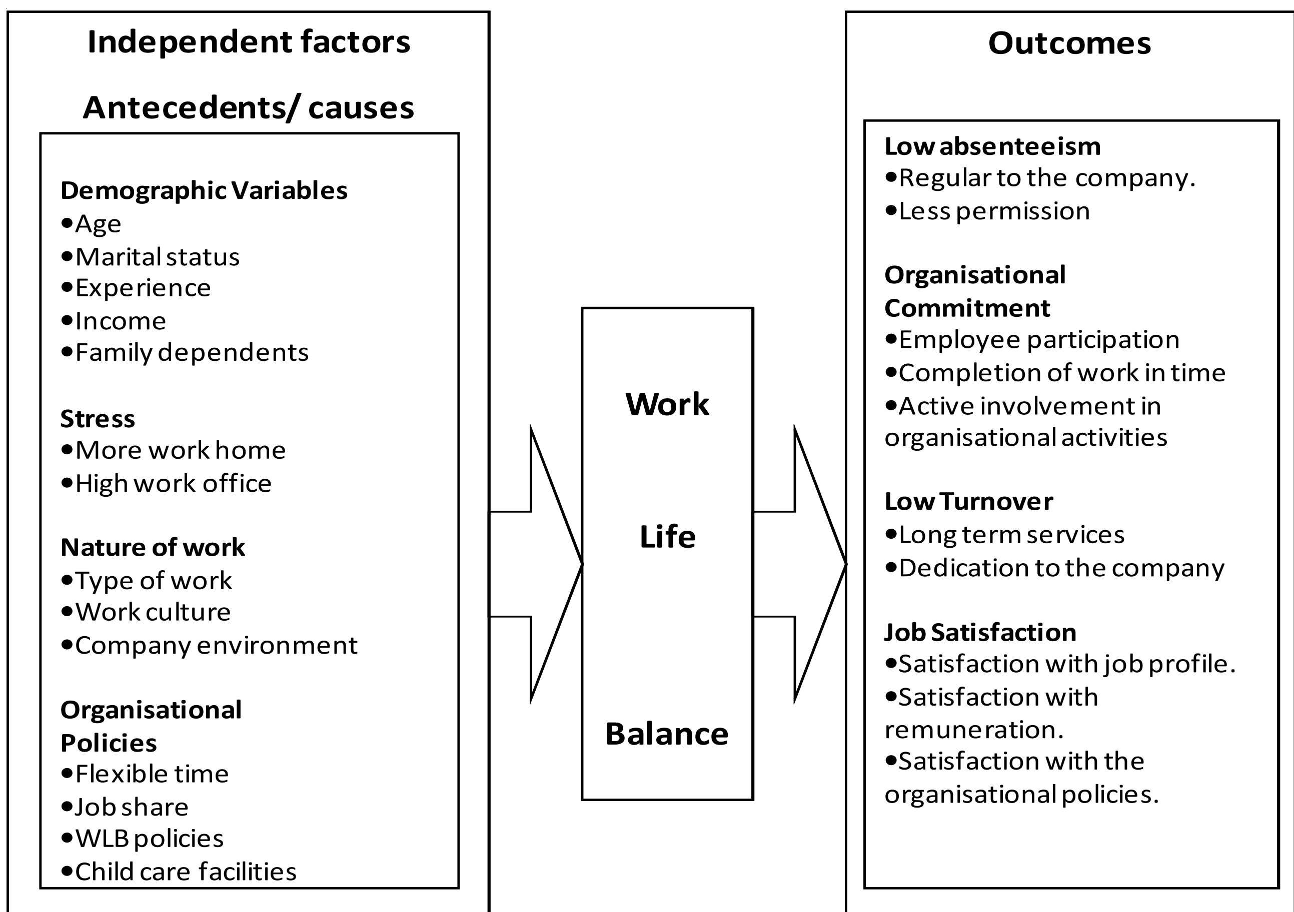


Figure 2: Diagram showing factors of WLB of Women Employees

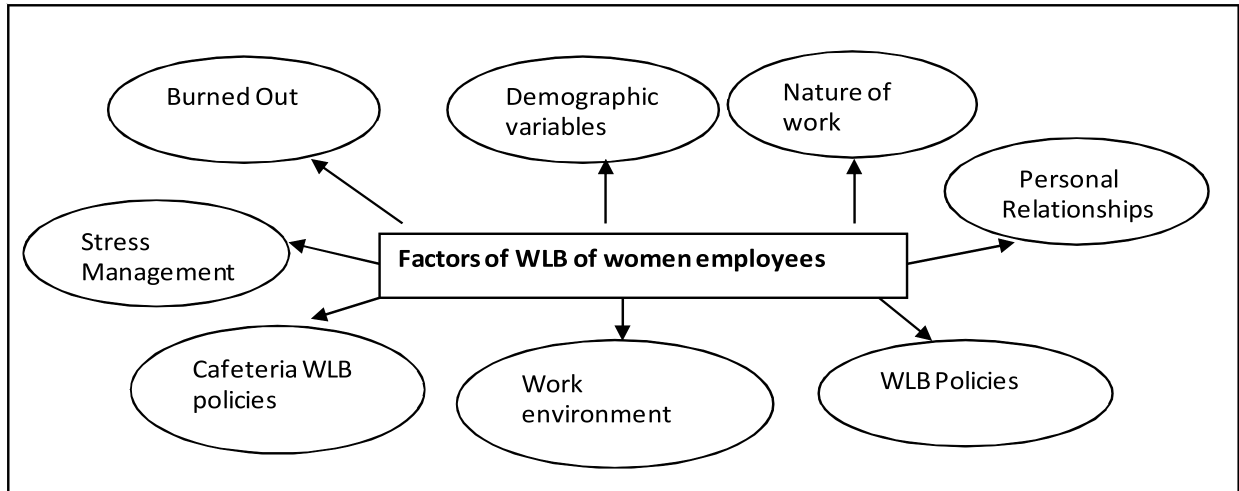


Table 1: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.834
Bartlett's Test of Sphericity	Approx. Chi-Square	3571.669
	Df	231
	Sig.	.000

Table 2: Factor Loadings

S. No	Dimensions	Variables	Factors Loadings
1.	Demographic Variables	• Age • Marital Status • No. of years of experience • Family dependents • Annual Income • Type of family	0.925 0.957 0.920 0.847 0.985 0.956
2.	Nature of work	• I am always worried about my work. • I often feel tired or depressed because of my work. • I feel physically ill and weak due to my job stress. • I have no fun and entertainment to come out of stress.	0.556 0.698 0.743 0.737
3	Personal Relationships	• I do miss out any quality time with family and friends because of pressure of work.	0.726
4	Work Life Balance Policies	• I do think that organisations which have good work life balance policies will be more successful.	0.871
5	Work Environment	• I feel happy about the time I spent at work. • Do you feel that your company has sufficient policies to help you in balancing your work life?	0.748 0.512
6	Cafeteria work life balance policies	• Do you feel that work life balance policy in the organisation should be customised to individual needs?	0.822
7	Stress Management	• My job stress is making a sever impact on work and family stress has increased my health issues. • I feel that organisation should maintain some policies like Jim, Yoga, Meditation to avoid Stress	0.554 0.796
8.	Burned Out	• My work stress since I has started made me psychologically drained.	0.881

Table 3: Total Variance Explained

Component	Initial Eigen values			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.282	24.009	24.009	5.282	24.009	24.009	5.265	23.933	23.933
2	2.310	10.501	34.509	2.310	10.501	34.509	2.256	10.255	34.188
3	1.463	6.650	41.159	1.463	6.650	41.159	1.347	6.122	40.310
4	1.403	6.375	47.534	1.403	6.375	47.534	1.299	5.904	46.215
5	1.266	5.753	53.287	1.266	5.753	53.287	1.266	5.756	51.971
6	1.222	5.555	58.843	1.222	5.555	58.843	1.218	5.536	57.507
7	1.087	4.939	63.782	1.087	4.939	63.782	1.218	5.535	63.042
8	1.010	4.590	68.372	1.010	4.590	68.372	1.173	5.330	68.372
9	.924	4.199	72.571						
10	.909	4.132	76.703						
11	.837	3.806	80.509						
12	.722	3.284	83.792						
13	.709	3.224	87.016						
14	.628	2.853	89.870						
15	.555	2.525	92.394						
16	.498	2.264	94.659						
17	.452	2.056	96.714						
18	.311	1.413	98.127						
19	.180	.816	98.944						
20	.128	.584	99.527						
21	.082	.372	99.899						
22	.022	.101	100.000						
Extraction Method: Principal Component Analysis.									

Table 4: Summary of results of factor analysis

	Component							
Item description	Fact1	Fact2	Fact3	Fact4	Fact5	Fact6	Fact7	Fact 8
Age	.925							
Marital status	.957							
No.of years of experience	.920							
Family dependents	.847							
Annual income	.985							
Type of family	.956							
I am always worried about my work		.556						
I often feel tires or depressed because of my work		.698						
I feel physically ill and weak due to my job stress		.743						
I have no fun and entertainment to come out of stress		.737						
I do ever miss out any quality time with family and friends because of pressure of work			.726					
do you think that organisations which has a good work life balance policies will be more successful				.871				
I feel happy about the time I spent at work					.748			
Do you feel that your company has sufficient policies to help you in balancing your work life?					.512			
do you feel that work life balance policy in the organisation should be customized to individual						.822		
My job stress is making a sever impact on work and family							.554	
I feel that organisation should maintain some policies like jim, yoga, meditation to avoid stress							.796	
My work stress since I has started made me psychologically drained								.881
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.								
a. Rotation converged in 12 iterations.								

DOI No. 10.5958/0973-9343.2014.01239.3

ASSESSMENT OF RISK TOLERANCE LEVEL OF INDIAN INDIVIDUAL EQUITY INVESTORS *AN EMPIRICAL ANALYSIS*

Syed Tabassum Sultana★ S. Pardhasaradhi★★

Return and risk are part of investment decision. The relationship between risk and return is direct with higher returns associated with higher risk while lower risk will mean lower returns. Many Investors are clueless about their natural ability to take risk and their disposition towards facing risky prospects. Investors may not differ in their objectives and knowledge about their investments, however differ significantly in their propensity to take risk or tolerate risk present in their investment decisions. Thus, risk tolerance is a crucial aspect of the shrewd art of investing. The present paper traces various financial Risk Tolerance Assessment methods and presents the dynamics and intricacies of each method to assist the equity investors who undertake high investment risk. Further, it scientifically assesses the financial risk tolerance level of Indian Equity investors. The equity investors are profiled into five categories: Low risk, Below average risk, Moderate risk, Above average risk and High risk tolerance based on responses to questions characterising investment decisions. This empirical study on Indian investors has some profound implications for equity investors, investment managers and brokerage firms. The investment product designers can design array of products which can cater to the investors who can incur low and moderate as majority of the Indian equity investors' are found to be moderate risk takers. The brokerage firms also can advice their clients in choosing less volatile stocks based on their ability and willingness to take risk.

The ultimate goal of any investor especially the equity investor is high returns. However, investments which offer highest rate of return inevitably present high degree of risk than investment options which offer moderate or low or stable returns. Thus, level of risk present in an investment option is the root of any investment decision. An investor who accurately assesses the risk inherent in each investment and endowed with ability or propensity to take high degree of risk is predicted to reap high returns than an investor who either fails to assess the risk or dismally falls short of ability to take required risk. Many Investors are clueless about their natural ability to take risk and their disposition towards facing risky prospects. Investors may not differ in their objectives and knowledge about their investments, however differ significantly in their propensity to take risk or tolerate risk present in their investment decisions.

Many investors who are ignorant and ill informed about risks associated with their investment options, grow anxious when markets become turbulent and grieve at the prospect of losses. Risk often arises from market volatility which can be perceived from the historical trends. A knowledgeable and experienced investor who accurately grasps the trends can take an insightful decision on the investment options provided the investor is willing to incur risk. Risk aversion percolates deep into the attitudes of investors despite their desire to make prospective gains and drives their financial decision. Investors have to be willing to take certain degree of risk of losing certain part of their money if they want to make gains. Thus, risk tolerance is a crucial aspect of the shrewd art of investing. Intelligent investors with an excellent grasp of trends associated with their investments can tolerate the dreadful swings in the value of investments, do not press the panic button and still thrive in tough conditions if they have high propensity to take the risk. The sound knowledge of the investments, nature of risk associated with the option, dynamic comprehension of market trends, individual characters and past experience of the investor play vital role in risk tolerance. The present paper traces various financial Risk Tolerance Assessment methods and presents the dynamics and intricacies of each method. It further attempts scientifically to assess the financial risk tolerance level of Indian Equity investor by using Financial Risk

★ **Associate Professor, Department of Business Management, Matrusri Institute of PG Studies, 16-1-486, Saidabad, Hyderabad, (Andhra Pradesh)**

★★ **Professor, Department of Business Management, College of Commerce & Business Management, Osmania University, Hyderabad (Andhra Pradesh)**

Tolerance instrument developed by Grable & Lytton (2003) on the basis of guaranteed vs. probable gambles, choice between sure loss and sure gain, risk as experience and knowledge, risk as a level of comfort, speculative risk, prospect theory , investment risk. Based on the obtained Financial Risk Tolerance Score individual equity investors have been profiled. The paper probes and makes contribution on significant causes of risk tolerance and perceived effects of risk on the investors' decision making.

I. Review of Literature

Financial risk can be defined as the unexpected variability or volatility of returns and it includes potential, worse-than-expected and better-than-expected returns. According to (Hamberg, 2004), managers often associate "risk" with "uncertainty"; however, "risk" in financial theory does not necessarily relate to uncertainty, neither does it have a negative implication. As per Investopedia's Dictionary (2008), risk is "the chance that an investment's actual return will be different than expected." Here, the difference between the actual return and the expected return can be either negative or positive. The magnitude of risk is measured as variation in expected returns. A risk, unlike uncertainty, as first established by Frank Knight (1921), entails known possible outcomes, as well as known probabilities of those outcomes.

The role of uncertainty and the lack of knowledge about the specific consequences of an action are important components of risk-related decision-making. The most commonly considered situations involving uncertainty are where the precise consequences are uncertain but their probabilities are known (March, 1994). In March's (1994) view, the most conventional approach to predicting decision making is to assume a decision maker will choose the alternative that maximizes expected value; that is, the alternative that would produce the best outcome if a particular choice were to be made many times. According to Mullen and Roth (1991), "risk is the existence of states beyond the decision maker's control that affect the outcome of his or her choices. The degree of risk is a function of the size of the potential loss and the probability of that loss". For decision makers, the notion of risk is closely associated with the concept of return, and variations around a return. Mathematically risk is considered as a decision which is seen as a joint function of the expected value (or mean) and the riskiness (the variance) of the probability distribution over outcomes conditional on choice of a particular alternative (March, 1994).

Financial Risk Tolerance

Every investment plan is based on four vital inputs factors. They are investor's goals, time horizon, financial stability and risk tolerance. The first three inputs (i.e., goals, time horizon, and financial stability) tend to be objective and relatively easy to measure. Investor goals include plans to use investment principal and earnings for purposes like children's education or marriage, financially independent retired life or a plush farmhouse to settle after retirement and so on. Time horizon refers to the anticipated time span the investor will need before beginning to use investment returns or the lock in period of the principle. Financial stability refers to the nature and stability of an investor's employment, assets, liabilities, and net worth, and the extent to which current income is needed for current living expenses.

The fourth input investor risk tolerance refers to how well an investor is able "to withstand the ups and particularly the downs in the securities markets, with an emphasis on an investor's attitudes and emotional tolerance for risk". (Grable, 2000) the maximum amount of uncertainty that someone is willing to accept when making a financial decision. Harlow & Brown (1990) define risk tolerance as, the degree to which an investor is willing to accept the possibility of an uncertainty to an economic decision. Unlike the other inputs into the investment management decision-making process, investor risk tolerance tends to be subjective rather than objective, and somewhat difficult to measure. Although difficult to measure, (Trone et al., 1996) have suggested that an ability to achieve desired investment objectives is influenced most significantly by an investor's emotional ability to accept possible losses in portfolio value. As risk tolerance could be highly correlated with an investors' likelihood of achieving his or her desired financial goals, it is important to identify the determinants that influence risk tolerance. Furthermore, financial advisors who understand the determinants of risk tolerance will undoubtedly help their clients develop successful investment strategies.

Assessment of risk tolerance is essential for optimum asset allocation within an investment portfolio. It is crucial in achieving long term investment goals. If the risk tolerance is based on a rational and informed evaluation, then the investor is prepared for a trade off between returns and the degree of risk, leading to mitigation of risk related problems and optimization of returns. For example, individuals with low risk tolerance may not achieve expected investment goals in the long term. They may experience opportunity losses for not investing in stocks. Similarly, individuals with high risk tolerance levels may unnecessarily lose wealth for not investing in short term investments.

Financial Risk Tolerance Assessment

The study of risk has been of interest to investors and academics for hundreds of years (Bernstein (1996)) however, most research attempts to understand financial risk tolerance is relatively recent. Past studies in the United States, the assessment of financial risk tolerance has tended to revolve around five methodologies: The discussion briefly describes the following methods.

a) Choice dilemmas

b) Utility theory

c) Objective measures

d) Heuristic judgments and

e) Subjective assessment.

Choice dilemmas are considered to be a popular method of risk assessment until the mid-1970s. Basically, choice dilemmas are scenarios where respondents are asked to make a risk choice for themselves or someone else regarding an everyday life event. After years of use of these tests were found to generate little evidence of general risk-taking propensity across situations because the items were one-dimensional. MacCrimmon & Wehrung (1986) summarized findings related to choice dilemmas by concluding that items that ask someone "how risk tolerant are you?" measure only a little component of the multidimensional nature of risk and that most people misstate their risk tolerance in these situations.

Utility theory continues to be a popular method of assessing financial risk tolerance; however, recent research challenges the standard utility function assumption by showing that most people do not have a constant risk aversion throughout the entire domain of wealth (Shefrin & Statman, 1993). It has been suggested that utility theory cannot adequately represent risk-taking preferences and tolerances because "the magnitudes of potential loss and gain amounts, their chances of occurrence, and the exposure to potential loss contribute to the degree of threat (versus opportunity) in a risky situation" (Kahneman and Tversky, 1979). In other words, people tend to be consistently more willing to take risks when certain losses are anticipated, and are more willing to settle for a sure gain when absolute gains are anticipated (Statman, 1995).

The difficulty of measuring and assessing someone's risk tolerance has prompted some researchers to recommend that "financial planners should focus on measurements of objective risk tolerance" (Sung and Hanna, 1996). Objective measure analysis appears to offer great potential in the assessment of financial risk tolerance (Schooley & Worden, 1996); however, objective risk-tolerance measures that require researchers to deduce someone's risk tolerance via their asset holdings may also pose serious validity problems. Objective measures assume that investors act in a rational way and that a person's asset allocation is a result of personal choice rather than the advice of a third party. As a result, objective measures 1) tend to be descriptive rather than predictive, 2) do not account for the multidimensional nature of risk, and 3) often fail to explain concrete investor behavior Elvekrog (1996); Train (1995).

Financial services professionals commonly use heuristic judgments to assess and predict financial risk tolerance (Roszkowski et al., 1993). This method assumes strong correlations between demographic and socioeconomic characteristics and financial risk tolerance (Grable and Lytton, (1998). For example, it is commonly assumed that older investors are inherently less risk tolerant than younger investors. Based on this heuristic, older individuals are typically advised to invest less of their assets in equities and more in fixed income securities. Although often assumed to be based on empirically tested assumptions, heuristic judgments often fail to adequately explain or predict actual investor behavior. In many cases heuristic judgments are little more than commonly accepted myths (Cutler, 1995).

Research findings related to choice dilemmas, utility analysis, objective functions, and heuristic judgments have led some researchers and practitioners studying risk-tolerance theory to conclude that these methods are not entirely appropriate when attempting to assess a person's financial risk tolerance. Instead, it has been argued that the best way to concisely and accurately identify a person's financial risk tolerance is to use an assessment instrument designed specifically to measure subjective risk tolerance using multidimensional financial scenarios and situations (MacCrimmon & Wehrung, 1986). However, as noted above, there are few, if any, widely accepted and commonly used measures or instruments designed to ascertain someone's financial risk tolerance (Roszkowski, 1995). MacCrimmon & Wehrung (1986) recommended the use of a questionnaire type instrument over other types of measures or experiments because a questionnaire does not subject a respondent's tolerances to "subtle influences of the decision analyst during the assessment process". Questionnaires also were recommended as they allow large numbers of subjects to participate in assessments, thus eliminating response biases that can arise when multiple analysts are used to assess tolerances on an interactive basis. Moreover, instead of relying on a single item,

MacCrimmon and Wehrung recommended that surveys and experiments include situation items where respondents are asked to make financial decisions concerning lotteries, equities, bonds, mutual funds, real estate, yellow metal and other types of investments. Although a number of authors have called for the application of formal procedures and tests to the financial risk tolerance assessment process, there is no consensus on how best to conduct it (Bouchey, 2004), Callan & Johnson (2003), Grable & Lytton, (1999a, 1999b, 2001, 2003), Hanna & Chen (1997), Hanna & Gutter (1998), Hanna, Gutter, & Fan (2001), Hanna & Lindamood (2004), Roszkowski (1995), Roszkowski, Davey, & Grable (2005), Yook & Evverett (2003)).

Despite its importance in the financial services industry, there are still some unresolved questions with respect to risk tolerance. Although a number of factors have been proposed and tested, past survey results reveals lack of consensus in measuring Risk Tolerance Level of investor.

Objectives of the Study

· To study how Risk Tolerance is assessed.
· To assess the risk tolerance level of Indian Individual equity investor.
· To profile the individual equity investor based on the risk tolerance score.

II. Research Design & Methods

The population size for the research refers to number of the demat account holders. According to NSDL (National Security Depositry Limited) the number of demat account holders are 130.55 lakh. The Research Advisors, (2006), explain the method of sample size determination as per formula suggested by Krejcie & Morgan (1970). Accordingly, the research advisors devised a table that suggests the optimal sample size – given a population size, a specific margin of error, and a desired confidence interval. Considering 95 percent confidence interval and 2.5 % of margin of error the sample size came upto 1536. The sample size figure was rounded off to 1500. Various stock broking firms were approached for the purpose of selecting the sample. The contact details of about 1500 individual investors were drawn randomly from the pool of its client base of the selected stock broking firms. Investors were contacted at initial phase with a request to participate in the survey. The questionnaire was administered to those individual investors who gave their consent, through various media as convenient to them. Convenient random sampling technique and referral sampling method is used to draw the sample for this empirical study. Sample Size: 891 individual equity investors (Response Rate of 59.4%)

Assessing of Financial Risk Tolerance Level of Indian Equity Investor

When a researcher wants to find out the factors that lie behind individual's risk tolerance, It can be accomplished in two different ways. One, where the researcher starts from theory and tests the hypothesis by an observation or experiment, the other is inductive approach where, according to Wallén (1996), one goes from data gathering and makes theoretical conclusions from the material gathered. The current research is carried out to assess the risk tolerance of Indian individual equity investors financial risk tolerance.

Scientific Method of Assessing Risk Tolerance

There are two different kinds of methods that researchers use, one which is a quantitative method and the other is a qualitative method. According to Walliman (2005) the two researchers in those two methods "they differ not only in the nature of the data sought and the subsequent methods of data analysis, but also in their philological rationale". Both qualitative and quantitative method have one thing in common according to Holme and Solvang (1997), they are both "aimed to give a better understanding of the society we are living in and how individuals, groups and institutions trade and influence each other". Moreover, Holme and Solvang explained the differences between the two methods, quantitative method is about making information into numbers and quantity whereas, the qualitative method depends on the interpretation of the researcher. According to Walliman (2005) the qualitative researcher tries to get an inside view of the phenomenon, whereas the quantitative researcher remains outside. Quantitative method was chosen due to the topic. By using survey questions, the effect of the researcher is minimised and above all the study can be generalized.

Choice of questionnaire

Questionnaire enables the researcher to organize the questions and receive answers without talking to everybody who is participating in the study (Walliman, 2005). Closed questionnaires are appropriate to the study because of the structure and impersonality that they have. The researcher effect on respondents are minimum and they do not have to be at the same place. That gives respondents the chance to be unidentified which allows the researcher get fair and true replies (Walliman, 2005) which is vital for the present study.

In order to assess the Financial Risk attitudes there haS to be a scale that would measure the subject in hand. In search

of existing scales, a study, done by Grable & Lytton (2003) in the US, comes out with a scale measuring Financial Risk Tolerance. The scale has been tested by the developers on several occasions and has been modified and perfected. The scale consisted of 13 items, which were selected from 100 items. The 13-item scale includes the qualitative and quantitative questions. Questions 1, 3, 5, 6 and 7 are qualitative questions. 2, 4, 8, 9, 10, 11, 12 and 13 are quantitative questions.

The 13-item scale, developed by Grable & Lytton (2003), used in this research measures 7 different dimensions of Financial Risk Tolerance of the individual equity investors. The seven dimensions of risk tolerance measure are as follows:

i. Guaranteed vs. probable gambles
ii. Choice between sure loss and sure gain
iii. Risk as experience and knowledge
iv. Risk as a level of comfort
v. Speculative risk
vi. Prospect theory
vii. Investment risk

Each item among the 13 items in the questionnaire represents one or more of the 7 dimensions of Financial Risk Tolerance as shown in Table 1. As it can be seen from Table 1 all the questions in the questionnaire are meant to measure different dimensions, which together make up one whole measurement of Financial Risk Tolerance. The elucidation for each dimension and the questions making up each respective dimension as to what they are measuring is as follows.

Questions that make up the "Guaranteed vs. Probable Gambles" dimension, give the respondent an option to choose between a guaranteed safe alternative and a gamble. A person who chooses a guaranteed safe option would be considered more risk averse or low risk tolerant than someone who chooses a gamble. For instance, in question 2, the respondents were asked to choose between a guaranteed Rs. 10000 option and several risky choices with corresponding probable gains. Note that, some questions can measure one or several dimensions of financial risk tolerance. For instance, Question 8 by itself measures financial risk tolerance as a choice between a sure loss and a sure gain by requiring the respondents to make a decision with incomplete information. Here, the respondents are asked to choose between various cases of sure gain along with a sure loss. Questions assessing the "Risk as Experience and Knowledge" dimension require some financial knowledge or experience such as, investing, saving and stocks and so forth. These questions assess whether experienced investors or investors with prior financial knowledge are more risk tolerant than others, as theory states. The dimension of "Risk as a Level of Comfort" is related to personality and psychological or behavioral aspect the investor. The questions that make up this dimension assess respondents' attitude towards risky choices. A respondent who is comfortable or confident in making risky choices will choose a riskier option, thus exhibiting more risk tolerance than others. For instance, in question 6, a person who associates the word "risk" with opportunity is more risk tolerant than a person who associates risk with loss. Questions assessing Speculative Risk assume that a risk tolerant person would tend to speculate more than a risk averse person. Here, a respondent has to choose either a safe option or speculate on the extent of probable return. Questions 9 and 10 are from the Prospect Theory, according to which people make decisions in terms of potential gains and losses relative to a reference point. Prospect Theory states that in general, people choose sure gain in Question 9 and chance in Question 10, which points to an average risk tolerance. A risk averse respondent would choose sure gain and sure loss in the respective questions; however a more risk tolerant respondent would go for chance options in both questions.

Questions 4, 5 and 11 measure a respondent's tendency to take investment risk. This dimension combines knowledge, experience and attitude of the respondent in making risky choices. If the respondent is willing to make riskier investments instead of choosing investments with less variance, he/she is more risk tolerant than others.

III. Results & Discussion

Descriptive Statistics of Dimensions of Risk Tolerance Score

The maximum and minimum RTS of the equity investors was found to be 15 and 43 respectively. The table 2 shows the descriptive statistics of risk tolerance score and various dimensions used for the measurement of risk tolerance level of equity investors. The descriptive parameters are number of questions, mean, median, standard deviation, minimum and maximum of all the seven dimensions of risk tolerance.

The mean RTS of sample was found 28.69, which indicate that the Indian individual equity investors are above average risk tolerant.

The reliability of the Risk tolerance scale is evaluated using

alpha of cronbach's (1951). The Cronbach's alpha for 13 – item scale was found to be 0.735 indicating an acceptable level of consistency Henerson et al., (1987); Pedhazur and Schmelkin, (1991).

Profiling Equity Investors Based on Financial Risk Tolerance Score

The Financial Risk Tolerance (FRT) score is calculated by adding up all the weights of corresponding answers. The maximum Risk Tolerance Score (RTS) that an investor can get is 47 indicating a very high financial risk tolerance. A score of 13, on the other hand, indicates the opposite extreme, that is, having a very low risk tolerance.

Based on RTS, the investors are profiled into five categories as

1. Low Risk Tolerance
2. Below Average Risk Tolerance
3. Moderate Risk Tolerance
4. Above Average Risk Tolerance
5. High Risk Tolerance

Financial risk tolerance measurement and categorisation is a relatively new concept in finance. However in the field of management decision making, risk tolerance categorisation is studied in detail by MacCrimmon and Wehrung (1985) and Shapira (1995). These studies use decision makers (managers) as units of analysis and as experimental subjects to understand how people make decisions under uncertainty. Maccrimmon and Wehrung (1986) extensively studied the willingness of managers to take risk, in particular senior management, with a series of questionnaires reflecting various situations that are characterised by risk. The central theme in their research is whether people could be categorised as risk takers or risk avoiders in various risky situations. One of the earliest studies to profile the investors as risk avoiders, risk neutrals and risk takers was carried out by Masters (1989). Schoemaker (1990) investigates the individuals risk attitudes (risk tolerance) across situations of different payoff domains and response modes. Each risky situation contains a payoff or option to select a decision that best represents an individual risk attitude. Schoemaker categorises individuals as risk-averse, risk-neutral and risk-seeking for each domain. Past studies profiled into three mutually exclusive categories of risk tolerance. Rooij, Kool and Prast (2007) examined pension preference and investor autonomy. They used two measures of two risk tolerance, one measure is a self-assessed i.e. subjective risk tolerance measure of investors consisting of seven risk tolerance categories. The second measure involves objective assessment using questionnaire and categorised on scale of six categories of risk tolerance. King and King (2005) used SCF (Survey of Consumer Finance) data set to conclude that risk tolerance has no impact on the probability that a household uses a debit card. Their three categories of risk tolerance are above average risk taker, average risk taker and risk averse. MAcCrimmon and Wehrung (1986) and Grable and Lytton(1998) used SCF data examine the relationship between risk tolerance and stock ownership of business-owning households. They categorized risk tolerance into three levels namely, some, high and substantial risk. There is no consensus on how to categorise/profile investors based on risk tolerance. Risk tolerance categorising is left to researchers to manipulate in an attempt to achieve research objectives. Few studies specify their analysis improved by using a dichotomous variable rather than three or four categories of risk tolerance. Some studies have a statistical defense to justify their categorisation of risk tolerance. The table 3 below summarizes the scoring system of the Financial Risk Tolerance scale and profiling of investors with respect to RTS range.

The current study has categorized or profiled investors' based on responses to questions characterising investment decisions and general decisions shown in table 4. The qualitative questions are displayed on an increasing or decreasing magnitude of questions which involve options between no risk/certain outcomes and risky/uncertain outcomes which are assessed on risk tolerance continuum scale. Each answer to questions numbered 1-13 is given a weight, where a higher weight means high risk and a lower weight means low risk. Investors whose cumulative score ranges lies between 13 – 18 are profiled as low tolerant to risk, investors whose score ranges lies between 19 – 22 are profiled as below average tolerant, 23 – 28 are moderate, 29 – 32 are above average risk tolerant and investors who scored between 33 – 47 are profiled as high risk tolerant respectively.

Investors whose RTS ranges lies around 13 – 18 are profiled as low tolerant to risk, these investors are more conservative, averse to risk and more concerned with capital preservation rather high returns. In the current study 2 (0.2%) of the investors were found to be low risk tolerant.

Investors with an RTS range of 19 – 22 are profiled as below average tolerant to risk, these investors are conservative who are averse to risk and more concerned with capital preservation and little to returns. In the current study 61(6.8%) of the investors were found to be below average risk tolerant.

Investors with RTS range of 23 – 28 scored are profiled as moderate tolerant, these investors are neither aggressive nor conservative, and concerned with capital preservation and little to high returns. 382 (42.9%) of the investors fall under moderate risk tolerant category.

Investors with RTS range of 29 – 32 scored are profiled as above average risk tolerant, these investors are aggressive but little conservative, and concerned with capital preservation and high returns. Total 219 (24.6%) of the investors fall under above average risk tolerant category.

Investors with RTS range of 33 – 47 are profiled as high risk tolerant; these investors are aggressive and are willing to accept losing their capital in search for higher returns. 227 (25.5%) of the investors were high risk tolerant. Table 5 summarises the profile of the Indian individual equity investors.

IV. Conclusion

Risk tolerance is the degree to which an investor is willing to accept the possibility of an uncertain to an investment decision. Investors who assess their risk tolerance level and become aware of the consequences of their risk taking ability can maximize their returns. Too much risk can lead to difficulty of preserving wealth for short-term goals or too little risk tolerance may work adversely towards achieving high returns in hurting long term financial goals. The current empirical analysis has important implications for individual investors, investment managers and brokerage firms as it has come out with certain interesting facets of individual equity investors. The investment product designers can design products which can cater to the investors who are moderate risk tolerant. Since majority of the Indian equity investors' fall under the same, the brokerage firms can advice their clients in choosing less volatile stocks as majority of the equity investors are moderate risk tolerant to risk.

References

Hamberg, M. (2004), Managerial Attitudes toward Risk and Financial Decision-Making, working paper, at Norwegian School of Economics, Bergen.

Frank Knight (1921), Risk, Uncertainty, and Profit, New York: Hart, Schaffner, and Marx.

March , J. (1994). A Primer on Decision Making. New York: Free Press.

Mullen, D. J., & Roth, B. (1991), Decision making: Its logic and practice, Savage, MD: Rowman and Littlefield Publishers, Inc.

Trone, D B, Allbright W R, & Taylor P R (1996). The management of investment decisions. hicago:Irwin.

Bernstein, P. L. (1996). Against the gods: The remarkable story of risk. New York: John Wiley & Sons.

MacCrimmon, K. R. & Wehrung, D. A. (1986). Risk management. New York: The Free Press.

Shefrin, H. & Statman, M. (1993). Behavioral aspects of the design and marketing of financial products. Financial Management, 22(2), 123–134.

Kahneman, D. & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. Econometrica, 47, 263–291.

Statman, M. (1995). A behavioral framework for dollar-cost averaging. The Journal of Portfolio Management,Fall, 70–78.

Sung, J. & Hanna, S. (1996). Factors related to risk tolerance. Financial Counseling and Planning, 7, 11–20.

Schooley, D. K. & Worden, D. D. (1996). Risk aversion measures: Comparing attitudes and asset allocation. Financial Services Review, 5, 87–99.

Elvekrog, M. (1996), Psychological 'unbalance' in investing: A matter of emotion, not analysis. Better Investing, 9-11.

Train, J. (1995). Buy them high, sell them low. Financial Times, 12, B14.

Roszkowski, M. J., Snelbecker, G. E. & Leimberg, S. R. (1993). Risk tolerance and risk aversion. In: Leimberg, S. R., Satinsky, M. J., LeClair, R. T. & Doyle, R. J. Jr., editors. The tools and techniques of financial planning (4th ed., pp. 213–226). Cincinnati, OH: National Underwriter.

Grable, J. E. & Lytton, R. H. (1998). Investor risk tolerance: testing the efficacy of demographics as differentiating and classifying factors. Financial Counseling and Planning, 9, 61–74.

Cutler, N. E. (1995). Three myths of risk-tolerance: what clients are not telling you. Journal of the American Society of CLU & ChFC, 49, 33–37.

MacCrimmon, K. R., & Wehrung, D. A. (1986). Taking risks. New York: The Free Press.

Roszkowski, M. J. (1995). Risk tolerance assessment. Bryn Mawr, PA: The American College.

MacCrimmon, K. R. & Wehrung, D. A. (1986). Risk management. New York: The Free Press.

Roszkowski, M. J. (1995). Risk-tolerance assessment. Bryn Mawr, PA: The American College.

http://www.research-advisors.com/tools/SampleSize.htm

Krejcie & Morgan (1970), "Determining Sample Size for Research Activities" Educational and Psychological Measurement, #30, pp. 607-610

Walliman, N. (2005), 'Your Research Project: A Step-by-Step Guide for the First-time Researcher. London, Thousand Oaks, New Delhi: SAGE.

Cronbach L. J., (1951), "Coefficient Alpha and the Internal Structure of Tests", Psychometrika, Vol. 16, No. 3, pp. 297-334.

Henerson, M. E., Morris, L. L. & Fitz–Gibbon, C. T., (1987). How to measure attitudes. Newbury Park, Ca: Sage.

Pedhazur, E. J. & Schmelkin, L. P., (1991). Measurement, design, and analysis: An integrated approach. Hillsdale, NJ: Lawrence Erlbaum Associates.

MacCrimmon, K.R. & Wehrung, D.A. (1985). Taking risks: The Management of Uncertainty. New York: Free Press.

Shapira, Z, (1995). Risk taking: A Managerial perspective. New York: Russell Sage Foundation

MacCrimmon, K. R. & Wehrung, D. A., (1986). Risk management. New York: The Free Press

Schoemaker, Paul J. H., (1990), Risk-Attitudes Related Across Domains and Response Modes?, Management Science, Vol. 36, No. 12.

Van Rooij, M., C. Kool, and H. Prast (2007), Risk-Return Preferences in the Pension Domain: Are People Able to Choose?, Journal of Public Economics, 91: 701-722.

King, A. S., & King, J. T., (2005). The decision between debit and credit: Finance charges, float, and fear. Financial Services Review, 14, 21-36.

Grable, J. E. & Lytton, R. H., (1998). Investor risk tolerance: testing the efficacy of demographics as differentiating and classifying factors, Financial Counseling and Planning, 9 (1), 61-73.

Table 1: The seven dimensions of financial risk tolerance measure

S No	Dimensions	Items in the Questionnaire
1	Guaranteed vs. Probable Gambles	Questions 2,7,8 and 13
2	Choice between sure loss and sure gain	Question 8
3	Risk as experience and knowledge	Questions 1,4,5,6 and 11
4	Risk as a level of comfort	Questions 1,3,5,6 and 12
5	Speculative Risk	Questions 2,8 and 13
6	Prospect Theory	Questions 9,10 and 12
7	Investment Risk	Questions 4,5 and 11

Table 2: Descriptive Statistics of Dimensions of Risk Tolerance Measure

	RTS	Dimensions of Risk Tolerance						
		Guaranteed vs. Probable Gambles	Choice between sure loss and sure gain	Risk as Experience and knowledge	Risk as a level of comfort	Speculative Risk	Prospect Theory	Investment Risk
No. of Questions	13	4	1	5	5	3	3	3
Mean	28.69	8.71	2.25	11.96	11.36	6.50	5.96	6.89
Median	28.00	9.00	2.00	12.00	11.00	6.00	6.00	7.00
Std. Deviation	4.913	2.197	.912	1.997	2.092	1.782	2.005	1.339
Minimum	15	4	1	6	5	3	3	4
Maximum	43	16	4	17	17	12	10	10

Source: Primary data

Table 3: Categorizing Investors based on the Risk Tolerance Score (RTS)

Risk Tolerance Score (RTS)	
Low Risk Tolerance	13 - 18
Below Average Tolerance	19 - 22
Moderate Risk Tolerance	23 - 28
Above Average Tolerance	29 – 32
High Risk Tolerance	33 – 47

Table 4: Risk Tolerance Profile of Equity investors'

RTS	Frequency	Cumulative Frequency	Percent	Cumulative Percent	Risk Category
15	1	1	0.1	0.1	Low Risk Tolerance
17	1	2	0.1	0.2	
18	0	0	0	0	
19	5	7	0.6	0.8	Below Average Risk Tolerance
20	8	15	0.9	1.7	
21	26	41	2.9	4.6	
22	22	63	2.5	7.1	
23	61	124	6.8	13.9	Moderate Risk Tolerance
24	50	174	5.6	19.5	
25	59	233	6.6	26.2	
26	72	305	8.1	34.2	
27	58	363	6.5	40.7	
28	82	445	9.2	49.9	
29	74	519	8.3	58.2	Above Average Risk Tolerance
30	62	581	7.0	65.2	
31	48	629	5.4	70.6	
32	35	664	3.9	74.5	
33	22	686	2.5	77.0	High Risk Tolerance
34	49	735	5.5	82.5	
35	66	801	7.4	89.9	
36	35	836	3.9	93.8	
37	23	859	2.6	96.4	
38	14	873	1.6	98.0	
39	5	878	0.6	98.5	
40	4	882	0.4	99.0	
42	8	890	0.9	99.9	
43	1	891	0.1	100.0	
Total	891		100.0		

Table 5: Summary of Risk Tolerance Profile of Investors'

Profile	Frequency	Percent
Low Risk Tolerance	2	0.2
Below Average Tolerance	61	6.8
Moderate Risk Tolerance	382	42.9
Above Average Tolerance	219	24.6
High Risk Tolerance	227	25.5
Total	**891**	**100**

DOI No. 10.5958/0973-9343.2014.01240.X

FIRM-LEVEL DETERMINANTS OF CAPITAL STRUCTURE DECISION – EVIDENCE FROM FOOD &AGRO PRODUCT COMPANIES IN INDIA

S. Buvanendra★ P. Sridharan★★ S. Thiyagarajan★★★

The purpose of this empirical study is to explore the factors which influence capital structure decision of the firms in the context of emerging market. Particularly, this study examines the impact of firms' characteristics, on the capital structure of Indian food & agro product firms listed in NSE (National Stock Exchange) during the period 2007-2011, using panel data. Here firms' characteristics such as profitability, size, growth, tangibility, non-debt tax shields, liquidity, were used as independent variables, while leverage ratios, such as total debt ratio, long term debt ratio and short term debt ratio were the dependent variables. In order to find differences, if any, exists among the firms' life cycle stages, the sample firms are split into three, based on their age - old firms, middle firms and young firms. Fixed and random effect regression models are used to find the effect here. The results reveal that factors such as profitability, tangibility, non debt tax shield and liquidity have significant influences on at least one of the measures of leverage chosen by firms in the Indian context. Results of this study validate the prediction of the tradeoff model along with the pecking order theory and agency model of capital structure seems to provide partial explanations.

How do firms choose their capital structure? In his answer to this question, Prof. Stewart C. Myers, then President of American Finance Association in 1984 simply said that "we don't know". Despite decades of intensive research, and hundreds of papers after Modigliani and Millers' seminal work, surprisingly there is lack of consensus even today among the finance experts on this basic issue of corporate finance. The capital structure decision is at the center of many other decisions in the area of corporate finance. These include capital structure decision, capital budgeting decision and working capital decision. Among them capital structure plays an important role. In finance, capital structure refers to the way in which a corporation finances its assets through the combination of equity, debt and hybrid securities. The capital structure of a firm is defined by Brighum and Ehrhardt (2011, 1089) as: "…. the manner in which a firm's assets are financed: that is the right side of balance sheet". Similarly, leverage is also defined by Brighum and Ehrhardt (2011, p.631) as: "…. the extent to which fixed income securities (debt and preferred stock) are used in firms' capital structure". Thus, capital structure is a mixture of equity and debt capital of a firm, resulting from the firm's financing decisions.

Several theories have emerged to explain the mix of security and financing sources of a firm. Even though there is no universally accepted theory on the debt-equity choice, there are conditional theories that have emerged in the last couple of decades, explaining firms' capital structure. The modern theory of capital structure began with the celebrated paper of Modigliani and Miller published in 1958 (Harris and Raviv 1991). They contend in their first proposition that the market value of any firm is independent of its capital structure. This was theoretically very sound but was based on the assumption of perfect capital market and no tax world, which were not valid in reality. Later they modified with the inclusion of tax benefit and its relevance to capital structure.

In the 1970's and 1980's, a number of scholars developed debt capacity theory. Among them, the agency theory (Jensen and Meckling, 1976; Myers, 1977), the signaling theory (Ross -1977), the pecking-order theory (Myers and Majluf, 1984; Myers, 1984), the trade-off theory and the free cash-flow theory (Jensen, 1986) are crucial at this juncture. Each theory presents a different explanation of corporate financing. The agency theory of Jensen and Meckling (1976) suggests that firm incurs two types of agency costs, viz., cost associated with the outside equity

★ **Research Scholar, Department of International Business, School of Management, Pondicherry Central University, Pondicherry.**

★★ **Associate Professor, Department of International Business, School of Management, Pondicherry Central University, Pondicherry.**

★★★ **Assistant Professor, Department of International Business, School of Management, Pondicherry Central University, Pondicherry.**

holders and cost associated with the presence of debt in capital structure. Total agency cost first decreases and after certain level of outside equity capital in capital structure, it increases. The total agency cost becomes minimal at certain level of outside equity capital. Thus, this theory pleads the concept of optimal capital structure. Ross (1977) developed a theory, based on the asymmetric information, that the choice of firm's capital structure signals to outside investors the information of insiders.

Bankruptcy and financial distress costs and agency costs constitute the basics of the trade-off theory. Under the trade-off theory framework, a firm is viewed as setting a target debt to equity ratio and gradually moving toward it. This indicates the existence of some form of optimal capital structure that can maximize the firm's value. The trade-off theory has strong practical appeal. It rationalizes moderate debt ratios. An alternative to trade-off theory is the pecking order theory which, more specifically, predicts that firms prefer to use internal financing when available and choose debt over equity when external financing is required. In summary, the trade-off theory highlights taxes, while the pecking order theory emphasizes on asymmetric information. The theory of free cash flow states that mitigation of free cash flow by paying interest of debt and dividends prevent a manager from probable deviations to abuse company's income for personal purposes. Because of law requirements, paying the principal and interest of debt is preferred to paying dividends to diminish the level of free cash flow (Jensen, 1986).

These theories give explanations to questions like 'Does an optimal capital structure exist?' 'What are the potential determinants of such optimal capital structure?' These are the questions to be answered by a researcher. However, most of the research work has been carried out in developed economies and very little is known about the capital structure of firms in developing economies. With this little research, we are not sure whether conclusions from theoretical and empirical research carried out in developed economies are valid for developing countries too, or a different set of factors influence capital structure decisions in developing countries. This has become increasingly important with the globalization of financial markets in recent years.

The paper is organized as follows. Section 1 of the paper gives a brief introduction to the background of the study and the research objectives. Section 2 summarizes the related literature. Section 3 gives description of the data and methodology. Section 4 discusses the results from the model used and finally, section 5 presents the conclusion.

I. Review of Literature

The empirical literature on capital structure choice, mainly referring to industrialized countries is vast. Significant ones are by Myers(1977); Titman and Wessels(1988); Rajan and Zingales (1995); Wald (1999) Frank and Goyal (2003); Antoniou et al., (2008). Literature referring to a few developing countries are by Booth et al.(2001); Pandey (2001); Al-Sakran (2001) and Huang and Song (2002). However, the findings of these different scholars do not lead to a consensus with regard to the significant determinants of capital structure. There can be similarities in the determinants but the degree to which it makes an influence depends on that particular firm. The available literatures to capital structure decisions explained the firm specific, industry specific and economic factors vary according to the industries, countries and institutional settings. Rajan and Zingales (1995) documented that, at an aggregate level, firm leverage is more similar across the G-7 countries than previously thought, and the differences that exist are not easily explained by institutional differences. According to Frank and Goyal (2003), the most reliable factors for explaining market leverage were: median industry leverage, market-to-book assets ratio, tangibility, profits, log of assets and expected inflation and also the results are consistent with some versions of the tradeoff theory. E. K. Kayo and H. Kimura (2011) analyzed the relative influence of time-, firm-, industry- and country-level determinants of capital structure and they show that the majority of leverage variance is due to the firm level factors. Antoniou et al., (2008) concluded that the capital structure decision of a firm is not only the product of its own characteristics, but also the result of the environment and traditions in which it operates. Further Booth et al. (2001) suggested that the variables that are relevant for explaining capital structures in the United States and European countries are also relevant in developing countries, despite the profound differences in institutional factors across these developing countries.

Firm characteristics and Capital structure

There are many factors which impact on the capital structure of a firm. These can be classified into two, viz., internal and external. The macro factors (external) of the economy of a country, such as tax policy of government, inflation rate, capital market condition, are the major external factors that affect the capital structure of a firm. The characteristics of an individual firm, which are termed here as micro factors (internal), also affect the capital structure of a firm. This section presents how the micro-factors affect the capital structure of a firm with reference to the

relevant modern capital structure theories.

Profitability

Based on the pecking order hypothesis, firms tend to use internally generated funds first and then resort to external financing. This implies that profitable firms will have less amount of leverage (Myers and Majluf 1984). Thus, this theory suggests a negative relationship between profitability (a source of internal funds) and leverage. Consistent with the pecking order theory, work of Titman and Wessels (1988), Rajan and Zingales (1995), Antoniou et al, (2002) and Bevan and Danbolt (2002) in developed countries, Booth et al, (2001), Pandey (2001), Um (2001), Wiwattanakantang (1999), Chen (2004) and Al-Sakran (2001) in developing countries all found a negative relationship between leverage ratios and profitability.

Size

The bankruptcy cost theory explains the positive relation between the size of firms and capital structure. Rajan and Zingales (1995) observed that larger firms are more likely to have higher debt capacity and are expected to borrow more to maximise the tax benefit from debt because of diversification. Their argument is consistent with the predictions of the trade-off theory. On the other hand, the pecking order theory suggests a negative relationship between firm size and the debt ratio, because the issue of information asymmetry is less severe for large firms. Kester (1986) reported an insignificant negative correlation between gearing and company size. Thus the empirical evidence is inconclusive.

Growth

Empirically, there is much controversy about the relationship between growth rate and level of leverage. The pecking order theory suggests that firms place a greater demand on the internally generated funds of the firm. Consequently, firms with relatively high growth will tend to look outside the firm to finance the growth and new investments. Therefore these firms will look to short-term less secured debt then to longer-term more secured debt for their financing needs. In other words growing firms that need funds prefer debt to external equity. Michaelas et al (1999) and Titman and Wessels (1988) reported that leverage is positively related to growth opportunities. . Chung (1993), Chaplinsky and Niehaus (1990) showed the evidence opposed to the pecking order theory. Contrary to this, agency theory of debt by Jensen and Meckling's (1976) stated, conflicts between owners and lenders should lead to a negative relationship between growth and debt levels. Rajan and Zingales (1995) also found the same. The trade-off theory also predicts a negative relationship, since firms holding future growth opportunities, which are a form of intangible assets, tend to borrow less than firms holding more tangible assets. This is because growth opportunities cannot be collateralized.

Tangibility

Due to the conflict of interest between debt providers and shareholders (Jensen and Meckling, 1976), lenders face the risk of adverse selection and moral hazard. Firms with high levels of tangible assets will be in a position to provide collateral for debts. If the company then defaults on the debt, the assets could be seized; yet the company may be in a position to avoid bankruptcy. It is expected, therefore, that companies with high levels of tangible assets are less likely to default and will take on relatively more debt resulting in a positive relationship between tangibility and leverage. The majority of empirical studies in developed countries done by (Rajan and Zingales (1995), Harris and Raviv (1991) and Wald (1999) among others, found a positive relationship between tangibility and leverage, However, the tendency of managers to consume more than the optimal level of perquisites may produce a negative correlation between collateralizable assets and leverage (Titman and Wessels, 1988). Chittenden et al., (1996) and Bevan and Danbolt (2002) found the relationship between tangibility and leverage to depend on the measure of debt applied. While these studies found tangibility to be positively correlated with long-term forms of debt, a negative correlation is observed for short-term debt elements. The empirical studies in developing countries find mixed relationship. Chen (2004) found the positive relationship while Booth et al. (2001) and Bauer (2004) have reported a negative relationship between tangibility and leverage.

Non debt tax shields

DeAngelo and Masulis (1980) proposed that tax deductions for depreciation and investment tax credits are substitutes for the tax benefits of debt financing. As a result, firms with large non-debt tax shields relative to their expected cash flow include less debt in their capital structures. Empirical findings are mixed on this issue. Bradley et al. (1984) have shown a strong direct relationship between leverage and non-debt tax shields, while Bauer (2004) has shown a negative but less significant relationship between non-debt tax shields and the measures of leverage.

Liquidity

The pecking order theory predicts a negative relationship

between liquidity and leverage, because a firm with greater liquidities prefers to use internally generated funds while financing new investments. A few empirical studies such as Deesomsak et al. (2004), Mazur (2007) and Suhaila and Wan Mahmood (2008) have shown their results consistent with the pecking order hypothesis. On the other hand, the trade-off theory suggests that companies with higher liquidity ratios should borrow more due to their ability to meet contractual obligations on time. Thus, this theory predicts a positive linkage between liquidity and leverage.

Capital structure and Life cycle of firms

The different phases of a business's life cycle determine the nature of its financial needs, the availability of financial resources, and the related cost of capital. This approach supports financial behaviors that are life-cycle-specific. In this study, the financial life cycle is defined with respect to the age of a firm. Based on the trade-off considerations, it may be argued that as the firm matures, its debt capacity increases, implying a positive association between age of the firm and leverage. This argument is supported by Berger and Udell (1998) and they reported that the use of debt increases over time and becomes particularly important in the maturity stage of a business. Therefore, leverage increases with age, as young firms are financially constrained while old firms have convenient access to external finance. However, on the other hand, it may be argued that as the firm matures, it builds its reputation thus leading to better and easier access to equity markets. Hence, based on the pecking order considerations, a negative relation is expected between age and leverage. In line with this approach, Robb (2002) reveled that younger firms use relatively more debt than older firms. Moreover, according to Petersen and Rajan (1994), leverage decreases with the age of the firm, as young firms are externally financed while mature ones mainly use retained earnings and equity.

Capital structure in Indian context

At the outset, it is worth reviewing the previous studies on listed companies that are related to leverage and capital structure in Indian context. Some studies have been conducted to ascertain the determinants of financial leverage under the Indian context. Bhat's (1980) used a sample of 62 companies from engineering industry and found business risk (defined as earnings instability), profitability, dividend payout, and debt service capacity were found to be significant determinants of the leverage ratio. Chakraborty (1980) found that age, retained earnings, and profitability were negatively correlated, while total assets and capital intensity were positively related to debt-equity ratio. He also provided a glimpse of the regional pattern of debt-equity ratios in different industrial centers in India. Pandey's (2005) study about the corporate manager's attitude towards the use of borrowings in India revealed that the practicing managers generally preferred to borrow instead of using other sources of funds because of low cost of debt due to the interest tax deductibility. Kirti Madan (2007) evaluated the capital structure of leading hotel chains of India and found capital structure is one of the most important determinants of a company's sustainable growth. Leverage seems to be working only for a few companies, whilst affecting others negatively. Firms that have been moderately geared have been able to generate a good return on equity. Chandra Sekhar Mishra (2011) identified profitability, tangibility, growth and tax as the determinants of Indian central PSUs' capital structure.

The Indian business sector has been experiencing a series of significant economic changes since 1991 when the Government of India opted for liberalization of the economy. With liberalization leading to globalization, listed companies are expanding their international dimensions, along with export sales and diversifying operations at a rapid pace. Those changes and developments necessitated the competitive companies to change their capital structure or to deviate from the traditional theoretical models. The present study focuses on the Food & agro-based industry in India. It plays a vital role in the national economic development and has potential to meet the local needs as well as export requirements. Also, it has the potential to immensely contribute to the growth Indian economy and the consequent socio-economic impact on employment and income generation. The National Stock Exchange (NSE) of India is one of the major stock exchanges comprising nearly 1575 companies listed in it. Very much like other developing economies, the area of capital structure is relatively unexplored in India. Limited research work exists in this area. Further, Booth and et al. (2001) point out that the use of short-term financing is greater than that of long-term financing in developing countries (including India). It would be interesting to find out whether or not different categories of debt are affected by different factors in the case of Indian's food & agro sector as well. The purpose of this study is to fill this void to some extent by providing empirical evidence from a developing country's perspective.

II. Research Design & Methods

For analytical purpose, data for finding out the firm level factors on the corporate capital structure are retrieved from PROWESS database, provided by the Centre for

Monitoring the Indian Economy (CMIE). The data collected from this source have been compiled and used with due care as per the requirements of the study. In the present study, all 101 food and agro-based firms are chosen from the listed firms in National Stock Exchange of India for the period of 2007–2011. We excluded those firms for which complete data was not available for the stated period. Finally we were left with a sample of 88 firms over the stated period of five years. All the variables are measured using book values because the data employed in this study come from financial statements only.

On the basis of research objectives of this study, the variables used and their measurements are largely adopted from existing literature, for the meaningful comparison of our findings with prior empirical studies (Rajan and Zingles 1995; Frank and Goyal 2003; Jean J.Chen 2004) in developed and developing countries. The selected independent variables are: profitability, tangibility, size, growth opportunities, non-debt tax shields, liquidity and the age. In line with Bevan and Danbolt (2002) and Michaelas (1998), this study also split total debt into long term and short term debts. The leverage ratios considered are: total debt to total assets, long term debt to total assets, and short term debt to total assets. They are defined as follows.

1. Leverage ratio (LEV) - the proportion of total debts (borrowings+ current liabilities) to total assets.
2. Long term debt ratio (LDR) - the proportion of borrowings to total assets.
3. Short term debt ratio (SDR) - the proportion of current liabilities to total assets.

Independent variables are defined as

1. Profitability (ROA) - the proportion of Profits after Tax (PAT) to total assets.
2. Size (LOGSZ) - the natural logarithm of sale.
3. Growth (GR) - the company growth opportunities is the percentage change of total assets.
4. Tangibility (ASTG) - the proportion of net fixed assets to total assets.
5. Non debt tax shield (NDTS) – the proportion of depreciation expenses to total assets.
6. Liquidity (LIQ) – the current assets divided by current liabilities.

Further empirical analysis is used to evaluate the role of the life cycle and the differences in the determinants of the debt/equity ratio throughout the life cycles of Indian companies by the use of the variable 'age'. Firm's age is defined as the time period between the year 2011 and the year of a firm's incorporation. This number was used to determine the different stages of the firm as young aged, middle aged and old aged firms.

Model specification

This study employed panel data procedures because sample contained data across firms and over time. The use of panel data increases more informative data, more variability, less collinearity among variables, more degrees of freedom and more efficiency. Moreover, many of the most influential studies have failed to control firm-specific time-invariant heterogeneity, and hence have potentially suffered from inherent biases (Bevan and Danbolt, 2004). This study has therefore explicitly tested the influence of firm-specific fixed effects on capital structure, through estimating the fixed effects model (FEM) and the random effects model (REM) [1]. We used these models in this study to estimate the effects of explanatory variables on the debt ratio (a measure of leverage). Further this study also employed the Hausman test (1978) to determine which estimation model, whether fixed or random effects model, best explains our empirical results. In addition, the multicollinearity has been tested for the sample data before the estimation of the coefficients of the model. The general form of the model can be stated as:

$$Y_{it} = \beta_0 + \beta X_{it} + \mu_{it}$$

Here, ì $_{it}$ is a random term expressed as $\mu_{it} = \alpha_i + \varepsilon_{it}$ where α_i is individual – specific effect or cross-section error component and ε_{it} is the remaining combined cross-section and time series error component. The expanded model for this study is stated as follows.

Fixed effect model

$$LEV_{it} = \beta_{0i} + \beta_1 ROA_{it} + \beta_3 LOGSZ_{it} + \beta_4 GR_{it} + \beta_2 ASTG_{it} + \beta_5 NDTS_{it} + \beta_6 LIQ_{it} + \mu_{it}$$

Random effect model

$$LEV_{it} = \beta_0 + \beta_1 ROA_{it} + \beta_3 LOGSZ_{it} + \beta_4 GR_{it} + \beta_2 ASTG_{it} + \beta_5 NDTS_{it} + \beta_6 LIQ_{it} + \varepsilon_i + \mu_{it}$$

LEV $_{it}$ denotes each leverage ratio of firm i at time t and it is computed as the ratio of total debt to total assets, long-term debt to total assets, and short-term debt to total assets, in alternative estimations; ROA $_{it}$ denotes the

profitability of firm i at time t. LOGSZ$_{it}$ denotes the natural logarithm of sales of firm i at time t. GR$_{it}$ denotes the growth opportunities of firm i at time t. ASTG$_{it}$ denotes the tangibility of firm i at time t. NDTS$_{it}$ denotes the non-debt tax shields of firm i at time t. LIQ$_{it}$ denotes the current ratio of firm i at time t. â$_{0i}$ denotes the y-intercept of firm i. â$_{1}$ to â$_{6}$ denotes the coefficients of the concerned explanatory variables. ì$_{it}$ denotes the error term of firm i at time t. â$_{0}$ denotes common y-intercept. å$_{i}$ denotes the cross-sectional random error component. ì$_{it}$ denotes the combined time series and cross-section error component.

Objectives of the Study

The main objective of the present study, therefore, is to define the fundamentals underlying the modern theories of capital structure such as trade off, pecking order and agency cost theories and to explore the factors which influence capital structure decision of the firms in the Indian context, using relevant models of panel data and including more explanatory variables. Particularly, this study examines the impact of firms' characteristics of profitability, size, growth, tangibility, non-debt tax shields and liquidity on the capital structure of Indian food & agro product firms listed in the NSE (National Stock Exchange), during the period 2007-2011. Further, this study intends to evaluate the role of the age and its differences, if any, exist in the determinants of the debt/equity ratio throughout the life cycles of Indian firms.

III. Results & Discussion

Test for data and models

Prior to estimating the coefficients of the model, the sample data were also tested for multicollinearity. Results are presented in Table 1, which shows that most cross-correlation terms for the explanatory variables are fairly small, thus giving no cause for concern about the problem of multicollinearity among the explanatory variables.

This study employed panel data procedures because sample contained data across firms and over time. Two panel econometric techniques, namely, the fixed effects and random effects estimation models, are used here. The null hypothesis of the Hausman test states that there is no significant difference between the coefficients of fixed and random effects estimators. The results of the Hausman specification test are reported in Table 2. The test is asymptotically ÷^{2} distributed with 6 df. Results indicate that the null hypothesis is rejected at 5% significant level since estimated chi square value is statistically significant with all three leverage measures. Thus we conclude that the fixed effects estimator is the most efficient estimator in all three categories of leverage measures.

Result of panel data analysis

We begin the panel data analysis by examining the effects of six factors in determining the three different measures of leverage. The results of fixed effect model have been presented in Table 2.

[1] Fixed effects estimator are consistent if the cross-section-specific effects are correlated with the explanatory variables and the random effects are inconsistent and biased. But the random effects are consistent and the fixed effects are inconsistent if the individual-specific effects are independently and randomly distributed of the explanatory variables. Thus, the key factor to consider is whether or not the individual effects are correlated with the explanatory variables.

According to the empirical findings reported in the above table, profitability (ROA) has a negative significant relationship with total debt ratio and long term debt ratio, supporting the pecking order hypothesis, while there is positive significant association with short term debt, consistent with the tax shield hypothesis. Further, profitability has a significantly negative coefficient, indicating that profitable firms tend to reduce their debt position via retaining profits. This finding is in accordance with the Myers and Majluf (1984) and the empirical findings in Rajan and Zingales (1995) and Huizinga, Laeven and Nicod (2008). On the other hand, profitable firms typically possess free cash flow at their disposal. Some authors (Jensen 1986) argue that debt financing in this situation is an effective instrument to restrict managers from undertaking less profitable investments. In this case, we expect a positive parameter estimate for profitability. Consequently it can be claimed that profitability does have a significant role in deciding debt ratios and consequently determine capital structure of Indian firms.

Theoretically, the relationship between size and leverage is unclear. Most of the empirical studies (Friend and Lang, 1988; Marsh, 1982) have proved that size of a firm plays a vital role in taking capital structure decisions. The relationship between firm's size and leverage in Indian firms produces a positive value, but this result is not statistically significant in the fixed effects model in all forms of debt, except with short term debt. This finding is consistent with the implications of the trade-off theory, suggesting that larger firms operate at high debt levels due to their ability to diversify the risk and to take the benefit of tax shields on interest payments, further underwritten by

several empirical studies have reported a significant positive relationship between leverage and firm size (Marsh, 1982; Bauer, 2004; Deesomsak et al., 2004; Zou and Xiao, 2006; Eriotis et al., 2007; Jong et al., 2008; Serrasqueiro and Rogão, 2009).

Another factor, which is supposed to affect capital structure, is growth potential. A positive relationship between growth opportunities and total, long and short term debt is found in Indian firms, which conforms to the same relationship found in the developed countries except the United States - Wald (1999). However, this result is also statistically insignificant with all three types of leverage, further supported by Sheikh and Wang, who found the growth opportunities to be highly insignificant in all estimation models, in manufacturing firms in Pakistan as well. Contrarily, Kim and Sorensen (1986), Kester (1986), Titman and Wessels (1988), and Chaplinsky and Niehaus (1990) all consider growth as a determinant of capital structure, though, with conflicting evidence.

Our results revealed that the variables size and growth are statistically insignificant with all three measures of leverage. This is quite unexpected since the most of the studies concluded that these factors are important in making capital structure decisions. It may be due to the fact that selected companies have some unique features themselves, since a large number of firms under food and agro product sector are family owned or single ownership firms in India. Further the role of different institutions in offering financial assistance for promoting food and agro-processing industries has been indicated very weak. In the state, capital investment is sought (avail) from their own financial sources and (its) borrowings from friends and relatives, while a very little contribution in this regard has been noted on (from) the part of different financial institutions.

Borrowing facility is mainly availed from (with) the commercial banks, despite (and also) multiple formalities of the banks in extending loans (as well). In addition, a major problem is that this industry has been concentrated in the un-organized sector with low inputs from science and technology. As the consequences, their growth potential is also limited.

Much research, (Titman and Wessels, 1988; Rajan and Zingales, 1995; Wald, 1999) examining the correlation between leverage and tangibility in developed as well as developing countries, has proved that a positive relationship exists because tangible assets are easy to collateralize for debt. Our results show that the tangibility has a positive coefficient with total and long term debt and its P-values suggested that this variable loses its statistical significance in both cases. This may be due to the fact that, in practice, less weight is given to the collateral, in lending decision. Casual empiricism suggests that companies tend to obtain unsecured loans from domestic and foreign sources. This is consistent with the findings of Shah and Hijazi (2004) in Pakistan. On the other hand, this study confirms the negative significant relationship between a firm's leverage, particularly short-term debt, and the tangibility of its assets. Some empirical studies for developing countries, i.e. Booth et al. (2001), Bauer (2004), Mazur (2007), have shown a negative relationship. This finding is consistent with the implications of the agency theory suggesting that the tendency of managers to consume more than the optimal level of perquisites may produce an inverse relationship between collateral assets and the debt levels (Titman and Wessels, 1988).

This study shows a result concerning the variable non-debt tax shield, that is statistically positively significant with total and long term debt ratios. This is Consistent with trade off theory and the empirical findings of Titman and Wessels (1988) and Mao (2003). If the amount of depreciation is the primary component of non-debt tax shields, the firm possesses relatively more tangible fixed assets that generate proportionally high levels of depreciation and tax credit. Such assets have collateral value for the attainment of secured debt, which in turn increases the debt capacity of firms allowing them to borrow more and save more on tax (MacKie-Mason, 1990a). Contrarily, literature on capital structure suggests that non-debt tax shields like depreciation reduce the need for debt to stop net income from going to next high tax brackets. In line with this, DeAngelo and Masulis (1980) also argued that tax deductions for depreciation and investment tax credits can be considered as substitutes for tax benefits of debt financing. This way debt tax shields should be negatively related to leverage. Thus, firms' motivation to borrow declines with increase in non-debt tax shields.

The major difference between the previous studies and our predictions concerns the effect of liquidity on leverage. Both previous studies, such as Kim et.al. (1998) and Opler et.al. (1999) found a negative effect; whereas, our prediction shows a positive effect. It should be noted that leverage was included in the earlier studies as a control and the authors provided no detailed rationale for the resulting negative sign. In contrast, we find a positive relationship between liquid assets and leverage, in line with the trade off prediction. This variable shows its statistical significance with long term and short term debt ratios. In India, it may be the reason for the absence of easy access of funds for such firms. This motivates them to keep the

cash flow than avail it in investment.

The particular phase of a business's life cycle determines the nature of its financial needs, the availability of financial resources, and the related cost of capital. This approach supports financial behaviors that are life-cycle-specific. In this section, to verify the existence of different capital structure determinants for firms at different stages of their life cycle, we sorted sample according to the age of the firms. We assumed minimum age of the sample (9 years old firm) as zero and maximum age of the firm as hundred (101 year old firm). Based on the percentile of age, young firms are grouped into 25th percentile of age - it was represented by nearly 45% of the entire sample; Middle firm are grouped into 50th percentile of age - represented by nearly 31% of entire sample- and other are grouped into old firms - represented by nearly 24% of entire sample. As illustrated in Table 3, Profitability was negatively statistically significantly related to leverage (total debt ratio and long term debt ratio) in line with the pecking order theory. Specifically, there is an increasing intensity in the negative effect of profitability on leverage, as we move from young to middle and finally, to old firms. After the early stage, as a firm starts to show increased profitability and a higher capacity to generate resources internally, the substitution effect became higher between internal financial resources and debt. Young firms are less able to support their business without debt. Therefore, considering profitability, it seems that the pecking order theory is more effective in explaining capital structure decision by old firms. The variable size lost its statistical significance in all cases of leverage measures, throughout the stages of the life cycle of firms. However, the positive coefficient found in most of the cases with leverage ratio reveal the existence of a relevant scale effect over the life cycle of the firms. Growth opportunities were not statistically significant for young and middle firms, in contrast to the results for old firms. This result is inconsistent with the findings of authors Chittenden et al. (1996) and Jordan et al. (1998). Tangibility has a positive significant effect with long term debt ratio of young firms. This shows that the young firms are more reliant on collateral assets to secure debt and obtain credit. It is also highlighted by Berger and Udell (1998). On the other hand, this variable has a significant negative effect with total debt ratio of middle and old firms as well as with the short term debt ratio of old firms. As firms mature over their life cycle with closer and longer banking relationships, they do not have to rely on collateral to obtain external capital. This result is consistent with Maurizio La Rocca et al. (2011). The other related variable to tangible assets is non debt tax shield, which shows a mixed result moving from young, middle to old firms. This has a positive sign with total and long term debt ratio of young firms and short term debt ratio of old firms, while the total debt ratio of middle firms have negative sign, supported by literature. Similar behavior is found in the liquidity of firms, i.e. it has both signs (positive and negative) with debt ratios over the life cycle of firms. However, its intensity varied across firm's life cycles. It is statistically significant with long term and short term debt ratios of young and old firms. In the case of middle aged firms, total and short term debt ratios are considered to be statistically significant.

In summary, the results of this empirical study suggest that some of the insights from modern finance theory are portable to India because certain firm-specific factors that are relevant for explaining capital structures in developed countries are relevant in India also. The static trade off model along with pecking order theory and agency cost theory seems to provide partial explanations. This conclusion is consistent with the study by Chakraborty (2010), who also investigated Indian listed non financial firms.

IV. Conclusion

This empirical study attempted to explore the determinants of capital structure of eighty eight (88) Food & Agro products (manufacturing) firms listed on the NSE India, during 2007-2011. The investigation is performed using panel econometric techniques, namely, fixed effects and random effects. This study has employed the three debt ratios (a measure of leverage) such as total debt ratio, long term debt ratio and short term debt ratio, as explained in the study.

As the results revealed by fixed effect regression model, profitability is the only variable without doubt significantly negatively associated with total and long term debt ratios and positively associated with short term debt ratio. This finding is consistent with the pecking order hypothesis as well as with the predictions of the trade-off theory. Size and Growth variables were confirmed not to have significant effect on any measure of leverage in capital structure decisions for Indian firms. Tangibility is negatively significantly related only with short term debt ratio. This finding is in contradiction with the predictions of the trade-off theory; however, it is in line with the implications of the agency theory suggesting that firms with less collateralizable assets may choose higher debt levels to limit the managers' consumption of perquisites. Result concerning the variable non-debt tax shield shows marginally statistically positive significance with total and

long term debt ratio, which is supported by trade off prediction. Similarly, there is a positive significant relationship between liquid assets and leverage (long term and short term debt ratios), which is supported by trade off prediction.

Finally there are differences existing in the capital structure determinants during a firm's life cycle. The impact of the independent variables is not completely uniform across the age of the firms. This may be due to the differing sample sizes, but it could also imply significant institutional differences that affect the importance of the independent variables. Consequently there is a need for further study to ensure the capital structure choices over life cycle of firms.

Thus, it can be inferred that the theoretical underpinnings of observed signs are still largely unresolved. However, the present study found profitability, tangibility, non debt tax shield and liquidity have significant influences on at least one of the measures of leverage chosen by this category of firms in India. The trade off model along with pecking order theory and agency model seems to provide partial explanations for the capital structure decisions in Food & Agro product companies in the Indian context.

The ultimate result of this study finds the afore-stated firm level determinants are the ones taken into account by the managers to arrive at decisions on the nature of capital structure in the food and agro product firms in India.

References

Baker, M. a. (2002). Market Timing and Capital Structure. Journal of Finance, 57 , 1-32.

Barclay, M. a. (1999). The capital structure puzzle: Another look at the evidence . Journal of Applied Corporate Finance, 12(1), 8-20.

Bevan, A. a. (2002). Capital structure and its determinants in the United Kingdom – A decompositional analysis,, . Applied Financial Economics, Vol. 12, No. 3, pp. 159-170.

Bradley, M. G. (1984). On the Existence of an Optimal Capital Structure: Theory and Evidence. Journal of Finance, 39 , 857-877.

Brealey, R. a. ((2000) 6th international edition). Principles of Corporate Finance. McGraw-Hill.

Booth, L. e. (2001). Capital structure in developing countries. Journal of Finance , 56 ,87-130.

Myers, S. (1984). The Capital Structure Puzzle. Journal of Finance, , 39 , 575-592.

Demirugu-Kunt, A. a. (1996). , Stock market development and financingchoices of firms, . World bank Economic Review, 10, 341-369.

Flannery, M. J. (2006). Partial Adjustment toward Target Capital Structures. Journal of Financial Economics, , 79 , 469-506.

Goyal, M. Z. (spring 2009). Capital Structure Decisions: WhichFactors Are Reliably Important? Financial Management , 1-37.

Harris, M. a. (1990). Capital Structure and the Informational Role of Debt. Journal of Finance, 45, 321-349.

Jensen, M. (1986). Agency Costs of Free Cash Flows, Corporate Finance and Takeovers. American Economic Review, 76 (1986), 323-339., 76 , 323-339.

Korajczyk, R. A. (2003). Capital Structure Choice: Macroeconomic Conditions and FinancialConstraints. Journal of Financial Economics, 68 , 75-109.

Madan, K. (2007). An analysis of the debt-equity structure of leading hotel chains in India. International Journal of Contemporary Hospitality Management, Vol. 19 Iss: 5 pp. 397 - 414.

Mishra1, C. S. (2011). Determinants of Capital Structure – A Study of Manufacturing Sector PSUs in India. International Conference on Financial Management and Economics, IPEDR vol.11.

Mukherjee, D. J. (2011). Determinants of Adjustment Speed to Target Capital Structure: Evidence from Indian Manufacturing Firms. International Conference on Economics and Finance Research, IPEDR vol.4.

Shyam-Sunder, L. a. (1999). Testing static tradeoff against pecking ordermodels of capital structure . Journal of Financial Economics, 51, 219-244.

Titman, S. a. (1988). The Determinants of Capital Structure Choice. Journal of Finance, 43,1-19.

Wald, J. (1999). How firm characteristics affect capital structure: an international comparison. The Journal of Financial Research, 22, 161–187.

Zingales., R. R. (1995). What do we know about capital structure? Some evidence from international data. Journal of Finance , 1421-1460.

Table 1: Correlation Matrix of Whole sample

Variables	Tangibility	Size	Profitability	Non debt ax shield	Liquidity
Tangibility	1.00				
Size	-0.14	1.00			
Profitability	-0.12	0.17	1.00		
Non debt tax shield	0.49	0.04	-0.04	1.00	
Liquidity	-0.25	-0.08	0.13	-0.11	1.00
Growth	-0.22	-0.06	0.16	-0.16	0.22

Table 2: Results of fixed effect model of capital structure determinants over different measures of leverage (whole sample)

Variables	Total debt ratio	Long term debt ratio	Short term debt ratio
Constant	0.52 (4.97)	0.22** (2.15)	0.31*** (4.66)
Profitability	-0.32*** (-3.34)	-0.48*** (-5.00)	0.15** (2.36)
Size	0.02 (0.70)	0.03 (1.11)	-0.02 (-1.02)
Growth	0.52 (0.52)	0.01 (0.60)	0.00 (0.69)
Tangibility	-0.03 (-0.38)	0.09 (1.35)	-0.10** (-2.26)
Non debt tax shield	0.94* (1.82)	0.92* (1.78)	0.11 (0.34)
Liquidity	0.00 (0.38)	0.00*** (2.87)	0.00*** (-4.14)
Hausman test	36.06***	50.54***	14.53**
Degrees of freedom	6	6	6
P-value	0.00	0.00	0.02
Adj R^2	0.88	0.86	0.81
F	36.85***	28.76***	21.28***
Durbin-Watson stat	1.33	1.59	1.71
Obs	437	437	437

t-values are given in parentheses below coefficients. Asterisk(s) ***, ** and * indicate significance at 1, 5 and 10 percent respectively. Source: Authors' calculations.

Table 3: Results of fixed effect model of Capital Structure Decisions during a Firm's life cycle

	Young firms			Middle firms			Old firms		
Variables	**Total debt ratio**	**Long term debt ratio**	**Short term debt ratio**	**Total debt ratio**	**Long term debt ratio**	**Short term debt ratio**	**Total debt ratio**	**Long term debt ratio**	**Short term debt ratio**
Constant	0.44***	0.13	0.33***	0.67***	0.62**	0.06	0.46**	0.32	0.14
	(3.51)	(1.07)	(4.55)	(2.75)	(2.39)	(0.22)	(2.10)	(1.34)	(0.87)
Profitability	-0.32***	-0.46***	0.12*	-0.53***	-0.61***	0.09	-0.56**	-0.99***	0.43**
	(-2.80)	(-3.99)	(1.76)	(-2.94)	(-3.16)	(0.40)	(-2.00)	(-3.25)	(2.05)
Size	0.03	0.05	-0.03	0.06	-0.04	0.10	0.05	0.00	0.05
	(0.87)	(1.52)	(-1.61)	(0.89)	(-0.51)	(1.18)	(0.89)	(0.08)	(1.30)
Growth	0.01	0.01	0.00	0.00	0.03	-0.03	-0.01	-0.07*	0.06**
	(0.57)	(0.89)	(0.28)	(-0.16)	(1.28)	(-0.95)	(-0.30)	(-1.72)	(2.10)
Tangibility	0.08	0.16**	-0.05	-0.21*	-0.19	-0.14	-0.37**	0.05	-0.42***
	(0.97)	(1.94)	(-1.06)	(-1.85)	(-1.52)	(-1.05)	(-2.40)	(0.32)	(-3.66)
Non debt tax shield	1.10*	0.99*	0.12	-4.02**	0.48	-2.18	2.32	-1.53	3.85***
	(1.88)	(1.69)	(0.34)	(-2.50)	(0.28)	(-1.12)	(1.30)	(-0.78)	(2.87)
Liquidity	0.00	0.00**	-0.00***	-0.04***	0.00	-0.04**	0.01	0.07***	-0.06***
	(0.43)	(2.32)	(-3.50)	(-3.00)	(-0.32)	(-2.51)	(0.61)	(4.17)	(-5.24)
Adj R^2	0.89	0.85	0.81	0.80	0.89	0.89	0.93	0.92	0.78
F	36.36***	26.34***	20.57***	14.21***	29.61***	28.56***	50.12***	44.05***	13.22***
Durbin-Watson stat	1.35	1.58	1.71	1.73	2.04	2.25	1.69	1.93	1.62
Obs	318	318	318	55	55	55	64	64	64
Hausman test	33.55122***	36.64544***	12.67**	4.22	9.30	16.46***	30.60***	34.47288***	7.57
P-value	0.00	0.00	0.05	0.65	0.16	0.01	0.00	0.00	0.27

Young firms: 25th percentile of ages, Middle firms: 50th percentile of age, Old firms: more than 50 percentile of age (T-values are given in parentheses below coefficients. Asterisk(s) ***, ** and * indicate significance at 1, 5 and 10 percent respectively) Source: Authors' calculations.

Table 4: Summary Statistics

Leverage					
	Mean	**Median**	**Standard deviation**	**Minimum**	**Maximum**
Total debt ratio	0.515	0.518	0.214	0.085	1.96
Long term debt ratio	0.369	0.385	0.242	0.000	1.69
Short term debt ratio	0.218	0.179	0.136	0.011	0.651
Explanatory variables					
Profitability	0.055	0.047	0.07	-0.145	0.32
Size	3.634	3.662	0.067	1.383	5.385
Growth	0.282	0.192	0.288	-0.138	1.925
Tangibility	0.351	0.344	0.168	0.039	0.739
Non debt tax shield	0.025	0.023	0.171	0.000	0.113
Liquidity	2.819	1.575	0.0004	0.186	20.798

DOI No. 10.5958/0973-9343.2014.01241.1

DETERMINANTS OF NON PERFORMING ASSETS: A STUDY OF SELECTED PUBLIC SECTOR BANKS IN INDIA

K.K.Thavamani★ N. Sakthivel★★

Non-performing assets is one of the major concerns for banks in India. NPAs reflect the performance of banks. A high level of NPAs suggests high probability of a large number of credit defaults that affect the profitability and net-worth of banks and also erodes the value of the asset. The NPAs growth involves the necessity of provisions, which reduces the overall profits and shareholders' value. The problem of NPAs is not only affecting the banks but also the whole economy. In fact high level of NPAs in Indian banks is nothing but a reflection of the state of health of the industry and trade. The Indian banking sector is facing a serious problem of NPAs. The extent of NPAs is comparatively higher in public sectors banks. Various steps have been taken by government to reduce the NPAs. It is highly impossible to have zero percentage NPAs. But at least Indian banks can try competing with foreign banks to maintain international standard. Hence, an attempt is made empirically to evaluate how NPAs in banks are influenced by their advancing pattern and macro economic factors in the country.

Non-performing Assets are threatening the sustainability of the bank performance and even tend to demolish the banks' profitability through a loss of interest income and write-off of the principal loan amount itself. The problem of NPAs is not only affecting the banks but also the whole economy. In fact high level of NPAs in Indian banks is nothing but a reflection of the state of health of the industry and trade. To improve the efficiency and profitability of the banks, various steps have been taken either by government or by banks themselves to reduce the NPAs. It is highly impossible to have zero percentage NPAs. But at least Indian banks can try competing with foreign banks to maintain international standard. Hence, undertaking a study on this area may assist the government, bankers and policy makers in their steps to curtail the NPAs. With increasing pace of globalization as well as with advancement in information technology, the political, economic, social, technological, legal and environmental factors have undergone dramatic changes, primarily due to structural transformation of emerging economies, including India. The change in credit policy of the Government along with technological advancement has facilitated the bankers to create newer financial products and reduction in transaction cost in turn increasing their operational efficiency. Hence, in this context, it is wise to undertake an analysis for evaluating the impact of bank specific factors in terms of lending and macro economic factors on banks' NPAs.

I. Review of Literature

Bratanovic & Greuning, 2000, recommended that credit risk ratios can be used as a measure of the credit risk associated with the banking sector and highlighted the usefulness of such ratios for banks to internally lower the ratio and avert any catastrophic failures.

In a study of Argentinean banks (Bercoff, Giovanniz & Grimardx, 2002) tried to measure NPAs by using various bank related parameters as well as macroeconomic parameters. Bank specific parameters were Ratio of Networth to Net Assets, Bank's exposure to peso loans, and type of banks such as foreign, private or public. Macroeconomic factors in this study were credit growth, reserves adequacy, foreign interest rate and monetary expansion. They have established that variables such as operating cost, exposure to peso loans, credit growth, and foreign interest rate had a negative effect on NPAs. The macroeconomic variables such as money multiplier and reserve adequacy had a positive impact on NPAs.

Namboodiri, 2002, pointed out the problem of Non-Performing Assets in Indian Banks. He observed certain simple but important basic points that a banker has to apply while appraising a credit proposal. He suggested to several points such as 5Cs (Character, Capital, Capacity, Conditions, Collateral), 6Ms (Man, Money, Machine, Material, Market, Men), and 7Ps (Product, Project, Purpose, Place, People, Policies, Profit). These 18 points mentioned play

★ Ph.D Research Scholar & Assistant Professor in Commerce, Gobi Arts & Science College, Gobichettipalayam, Tamilnadu

★★Research Supervisor & Assistant Professor in Commerce, Gobi Arts & Science College, Gobichettiyapalayam, Tamilnadu.

considerable role in credit risk management and can be used for analyzing the strength and weakness of the venture before financing.

Prashanth, 2002, in his study focuses on comparative study on Non-Performing Assets in India in the Global context. Similarities and dissimilarities, remedial measures and conclude the importance of a sound understanding of the macroeconomic variables and systemic issues pertaining to banks and the economy for solving the NPAs.

Das and Ghosh, 2003, empirically examined non-performing loans of India's public sector banks in terms of various indicators such as asset size, credit growth and macroeconomic condition, and operating efficiency indicators.

Rajan and Dhal, 2003 reported that macroeconomic conditions such as higher GDP growth and bank specific factors such as maturity, terms of credit, banks size impacted significantly on the Non-Performing Assets of commercial banks in India.

Rajiv and Sarat, 2003, explored an empirical approach to the analysis of commercial banks' non-performing loans (NPLs) in the Indian context. The empirical analysis evaluated as to how banks' non-performing loans were influenced by three major sets of economic and financial factors, viz., terms of credit, bank size induced risk preferences and macroeconomic shocks. The empirical results from panel regression models suggested that terms of credit variables have significant effect on the banks' non-performing loans in the presence of bank size induced risk preferences and macroeconomic shocks. Moreover, alternative measures of bank size could give rise to differential impact on bank's non-performing loans.

Objective of the Study

- To determine the unique factors that contribute to significant changes in NPAs of SBI and other selected public sector banks.

Hypothesis

By realising the significance of the study, an attempt has been made to frame the following null hypothesis

- The factors determining the NPAs are different for State Bank of India & other selected public sector banks.

II. Research Design & Methods

There are 26 Public Sector Banks functioning in India (SBI - 1 & its associates - 5 and other Nationalised banks -20). Out of these, 8 Public Sector Banks were randomly selected. The selected banks are: State Bank of India, Bank of Baroda, Bank of India, UCO Bank, Central Bank of India, Punjab National Bank, Union Bank of India and Canara Bank. The multiple regression analysis is used to identify the factors determining NPAs in banks. This study is based purely on secondary data. The annual financial reports such as balance sheet, profit and loss account along with schedules are the secondary data collected.

Regression model for identifying the determinants of NPAs

To find out the impact of advancing pattern on NPAs of banks, the loan variables, viz., ratio of NPAs to total advances (total loan), advances (loans) to total assets, size as natural log of total assets, change in advances (loan) at time 't' relative to time 't-1' as adopted by (Manoj & Gaurav, 2010) in their regression model for identifying the determinants of NPAs based on the empirical model employed by Jimenz and Saurina .

$$NPATL_{it} = NPATL_{it-1} + LOANTA_{it} + SIZE_{it} + \Delta LOAN_{it} + \Delta LOAN_{it-1}$$

Where

=Non Performing Assets to Total loan of Bank 'i' in current year (t).

$NPATL_{it-1}$ =Non Performing Assets to Total loan of Bank 'i' in previous year (t-1) (lagged one year)

$LOANTA_{it}$ =Ratio of Advances to Total Assets of Bank 'i' in current year (t)

$SIZE_{it}$ = Natural log of Total assets of Bank 'i' in current year (t)

$\Delta LOAN_{it}$ =Change (Growth) in Advances of Bank 'i' in current year (t) relative to previous year

$\Delta LOAN_{it-1}$ =Change (Growth) in Advances of Bank 'i' in one lagged year.

For identifying the impact of macro-economic variables on NPAs of banks, this study includes Gross Domestic Product (GDP), Money supply (Broad money), Rear Effective Exchange Rate (REER), Interest rate and Inflation rate as independent variables as used by Munib and Atitya (2013). The proposed regression model for macro economic factors on NPAs is:

$$NPATL_{it} = \alpha + \beta_1 GDP_t + \beta_2 M2_t + \beta_3 REER_t + \beta_4 IR_t + \beta_5 CPI_t + e_t$$

The effect of bank specific factors in terms of advances in the presence of macro-economic status of the country on NPAs of banks is also analyzed by including independent variables in equation (1) and (2) that have good predicting powers on NPAs captured after running the respective equations. Finally, the regression models with selected loan and macro-economic variables for NPAs of SBI and other selected public sector banks are compared using Fisher's Z test in order to find out whether the variables in the predictor set do equally well for both bank groups or not. The results of the analysis are tabulated and interpreted in the following section.

IV. Results & Discussion

Table 1 is reported with results of regression for NPAs with lending variables for State Bank of India. In the table, there are three regression models. The first one is the 'initial model' with all selected variables. The next two models, first subset and second subset models are run successively after dropping least significant variables in the respective previous models in order to get the model of best fit. Such technique is advisable to overcome the problem of multi-co linearity among the variables in predictor set (of initial model / or previous models) if any. The model of best is selected based on the adjusted R^2 value, the explained variance which is adjusted for number of predictors in the model. The model with high adjusted R^2 value is considered to be the model of best fit. However, if there is only fractional difference in the adjusted R^2 values (< 1%) between two models, the model with minimum number of predictors is taken as the best fitted model.

As per the table, the fit of all three models are significant. But adjusted R^2 value of 0.9630 for second subset model is higher than that of previous two models. This shows that the three loan specific factors could explain 96.30 per cent of the variance in NPAs. Moreover, the coefficients of all variables in the second subset model are significant. Hence, the second subset model is considered as the model of best fit and selected for final inference

In the selected model, sign of the coefficients of all three variables, viz., advance to total assets, size and growth in advance in the current year are negative. That is, the NPAs of SBI tend to decline significantly if SBI increases issue of fresh loans significantly and extend higher level of credit relative to previous year when there has been significance in total assets.

From the observation of the table, it is understood that the regression for SBI as well as other selected public sector banks is fitted significantly. The variance explained (with taking number of terms into consideration) in current year NPAs (dependent) is 96.71 per cent and 98.74 per cent for in the models for SBI and other selected public sector banks respectively. After adjusting for number of terms in the models, the explained variance by the model for Public sector banks is higher compared to explained variance by the model for SBI. This implies as if the power of loan variables in predicting the NPAs is higher for other selected public sector banks.

From the comparison of coefficient of individual variables, it is apparent that unique power of previous year NPAs proportionate to total advances and current year proportion of advances to total advances in determining the NPAs of other selected public sector banks is significantly higher when compared to that of SBI.

However, from Fisher's Z value of 1.03 as shown in Table 3, obtained from comparing the R^2 values between SBI and other selected public sector banks model, which is insignificant, it becomes apparent that the selected loan variables together are equally effective for both bank groups in explaining NPAs. In sum, it is found that unique power of previous year NPAs proportionate to total advances and current year proportion of advances to total advances in determining the NPAs of other selected public sector banks is significantly higher when compared to that of SBI but combined effect of all loan variables on NPAs does not differ between SBI and other selected public sector banks.

NPAs and Macro Economic Variables

The loan default in banks and financial institutions is likely to occur when economic scenario is in strange situation. As the economic scenario of a country is judged by various components, the Gross Domestic Product (GDP), Money Supply, Real Effective Exchange Rate (REER), Interest rate (lending rate) and Inflation rate are the important components for weighing the economic condition. Hence, here an attempt is made to know to what extent the economic indicators have affected the default loan in banks.

Table 4 presents regression results identifying the influence of selected macro economic variables on NPAs of SBI. From the table, it can be observed that the initial model with all selected variables in the predictor set is not significant. Hence, first subset model is run after dropping two least significant variables. This model is fitted significantly with adjusted R^2 value of 0.7654.

In order to know whether there is any further improvement in the model fit if interest rate, whose coefficient is

insignificant in the first model, is dropped in the absence of interest rate, the second subset model is also fitted significantly but with less adjusted R^2 value compared to first model. Hence, the first model is the best fitted model for further inference. In this regression model, coefficient is negative for all three predictors but significant only for GDP and money supply. Based on the entire above results, it is found that a significant decline in GDP and money supply tends to increase the risk of loan default in SBI despite there is a marginal decline in rate of interest on loan

Joint effect of loan specific factors and Macro Economic variables on NPAs

The unique influence of loan specific variables of the banks in the presence of country's macro economic variables and vice versa on NPAs of Banks is analyzed here. The loan variables and macro economic variables included in the present regression model are based on the best fitted regression models which are run separately for loan variables and macro economic variables in the preceding part of this chapter.

Table 5 shows the regression results for NPAs with selected loan and macro economic variables for SBI.

As shown in the table, the initial model with all selected variables in the independent set is fitted significantly with R^2 and adjusted R^2 values of 0.9972 and 0.9889 respectively. Moreover, the estimated coefficient of each independent variable is significant. However, an attempt is made to find out whether there is any model better than the initial one by dropping out the variables with less significant level. But from the observation of first and second subset models, it becomes apparent that initial model is the best one

In the initial model, the sign of the coefficient of advance to total assets, credit growth in current year (Ä Advances in Current year, 't'), well as credit growth in previous year (Ä Advances in previous year, 't-1') is negative whereas the sign of macro-economic variables, viz., GDP, money supply and Interest rate is positive.

Hence, it is deduced that level of credit risk for SBI due to proportion of non-performing loan to total loans tend to increase significantly when there has been a significant decline in current year lending, credit growth in current year as well as in previous year in the bank in the presence of significant increase in interest rate even though there is a significant increase in GDP and Money supply in the country.

To find out the strength of influence of advancing pattern on NPAs of both SBI and other selected public sector banks in the presence of selected macro economic variables of the country, the regression analysis is run and the results of the analysis are provided in Table 6.

From the observation of the table, it is understood that the adjusted R^2 value, 0.9463 for first subset and 0.9446 for second one does not differ much. However, the second subset model is the best one as this model could explain almost same of variance in the dependent with two predictors as compared to first subset model with three predictors. Hence, second one is taken for final inference. In this model, the coefficients of both predictors are positive and significant, in turn indicating that the level of NPAs is determined by NPAs to total advance in previous year and money supply in the country. In sum, it is found that level of NPAs in banks in India is likely to go up when there has been a significant increase in NPAs in previous year despite there is a notable increase in country's money supply.

From Table 7, in which results of regression analysis for SBI and other selected public sector banks with best predicting loan and macro economic variables captured from regression model for combined data of SBI and other selected public sector banks are shown, it can be observed that the coefficient of NPAs to total advance in previous year is significant in both models whereas the coefficient of money supply is insignificant for SBI and significant for other selected public sector banks.

However, Z values obtained from comparing the beta coefficient of individual predictors, are all insignificant, in turn indicating that there is no significant difference in the unique influence of these two independent variables on NPAs between SBI and other selected public sector banks. Further there is no much difference in the adjusted R^2 value between models of SBI and other selected public sector banks. That is combined effect of selected predictors is also found to be same between two models. This is also supported statistically by Fisher's Z test, results of which are shown in Table 8.

In the table, Z value obtained for the difference in R^2 values is very trivial. Therefore, it is concluded that NPAs to total assets in previous year and Money supply in the country is equally effective in determining the level of NPAs for SBI and other selected public sector banks.

Given below are the major findings of the study

Ø The NPAs of SBI tend to decline significantly if there is a significant increase in issue of fresh loans and if the banks extend higher level of credit relative to previous year when there has been a significant increase in size of assets.

Ø A significant decline in GDP and Money supply tends to increase the risk of loan default in SBI despite there is a marginal decline in rate of interest on loan.

Ø The credit risk level of SBI and other selected public sector banks is likely to go up when there has been a notable decline in country's GDP and Money supply levels even if there is a marginal decline in interest rate.

Ø The level of credit risk for SBI due to proportion of non-performing loan to total loans tends to increase significantly when there has been a significant decline in current year lending, credit growth in current year as well as in previous year in the presence of significant increase in interest rate even though there is a significant increase in GDP and Money supply in the country.

Suggestions

Ø It is found from the study that the reduction in NPAs is not only in the hands of banks but also in the hands of the Government as NPAs in Indian banks are prone to GDP and Money supply. That is, NPAs in banks are likely to go up when there is a decline in GDP and Money supply. Therefore, Reserve Bank of India should device appropriate financial policy in order to maintain sustained growth in GDP and Money supply.

Ø It is found from the study that the mitigation of NPAs becomes possible for some banks when there is a substantial increase in non-interest income. Hence, the banks can think of diverting part of fund in making investments in other avenues to earn more from non-interest sources rather than fully depending on income by way of interest through issuing fresh loans.

Ø Before implementing any loan waiver schemes, the Government should take the NPAs into consideration.

IV. Conclusion

In this paper, it is attempted to identify the bank specific factors in terms of advances and macro-economic variables of the country that could determine the level of NPAs in SBI and other selected public sector banks and also in the banks on the whole. The regression approach is used for identifying the determinants. From the inferences of the results, it is concluded that non performing loans of all other selected public sector banks in current year tend to increase significantly with significant increase in proportion of NPAs in total advances in the last year despite the Selected Public Sector banks has significantly reduced the extent of issuing credit relative to previous year. From the analysis of combined data, it is concluded that the credit risk level of SBI and other selected public sector banks is likely to go up when there has been a notable decline in country's GDP and Money supply levels even if there is a marginal decline in interest rate.

The level of NPAs in banks in India is likely to go up when there has been a significant increase in NPAs in previous year despite there is a notable increase in country's money supply. From the comparison of predicting power of loan and macro economic variables between SBI and other selected public sector banks, it is understood that power of NPAs to total assets in previous year and Money supply in the country is equally effective in determining the level of NPAs for SBI and other selected public sector banks.

References

Bratanovic, S.B., and V. H. Greuning, (2000). Analyzing Banking Risk, Working Paper the World Bank, Washington, D.C.

Bercoff, J.J., Giovanni, J. and Grimardx, F. (2002). Argentinean banks, credit growth and the tequila crisis: A Duration Analysis" (Unpublished), quoted in Vighneshwara Swamy (2012), "Impact of Macroeconomic and Endogenous Factors on Non-Performing Assets", The International Journal of Banking and Finance, Vol.9, No.l, pp.27-47.

Namboodiri, T C G. (2002). "NPA: Prevention is better than Cure", Vinimaya, Vol. XXII, No.3, p.19 – 22.

[1]Prashanth K Reddy (2002), "A comparative study of Non Performing Assets in India in the Global context - similarities and dissimilarities, remedial measures," October, IIM Ahemadabad, India

Das, A., and S. Ghosh. (2003). "Determinants of Credit Risk", paper presented at the Conference on Money, Risk and Investment held at Nottingham Trent University in November 2003

Rajan, R., and S. C., Dhal, (2003). "Non-performing Loans and Terms of Credit of Public Sector Banks in India: An Empirical Assessment." Occasional Papers, Reserve Bank of India, Vol.24, pp.81-121.

Rajiv Ranjan and Sarat Chandra Dhal. (2003). "Non-Performing Loans and Terms of Credit of Public Sector Banks in India: An Empirical Assessment", Reserve Bank of India Occasional Papers, Vol.24, No.3, Winter, pp. 81-121.

Manoj Kumar Dash and Gaurav Kabra (2010). "The Determinants of Non-Performing Assets in Indian Commercial Banks: An Econometric Study",

Middle Eastern Finance and Economics, Issue 7, pp.94-106.

Munib Badar and Atiya Yasmin Javid. (2013). "Impact of Macro Economic Forces on Nonperforming Loans: An Empirical Study of Commercial Banks in Pakistan", Wseas Transactions on Business and Economics, Vol.10, No.1, pp.40-48.

Das, A., and S. Ghosh. (2003). "Determinants of Credit Risk", paper presented at the Conference on Money, Risk and Investment held at Nottingham Trent University in November 2003.

Misra, T.P. (2003). "Managing Non-Performing Assets: A Professional Approach", Bulletin, Vol.25, No.1, pp.14-19.

Rajan, R., and S. C., Dhal, (2003). "Non-performing Loans and Terms of Credit of Public Sector Banks in India: An Empirical Assessment." Occasional Papers, Reserve Bank of India, Vol.24, pp.81-121.

Rajiv Ranjan and Sarat Chandra Dhal. (2003). "Non-Performing Loans and Terms of Credit of Public Sector Banks in India: An Empirical Assessment", Reserve Bank of India Occasional Papers, Vol.24, No.3, Winter, pp. 81-121.

Harpreet Kaur and Pasricha J.S. (2004). "Management of NPAs in Public Sector Banks", The Indian Journal of Commerce, Vol.57, No.2, April-June, pp.14-20.

Jimenez, Gabriel and Jesus Saurina (2005). "Credit cycles, credit risk, and prudential regulation." Banco de Espana, Vol.3, No.1, pp.42-45.

Rajesham, C.H. Dr. and Rajendar, K. Dr. (2007), "Managing of NPA in Indian Scheduled Commercial Banks", Journal of Banking and Finance, Chartered Accountant, June, pp.1953 – 1960.

Vallabh, G., Mishra, S. and Bhatia, A. (2007), "Non-Performing Assets of Indian Public, Private and Foreign Sector Banks: An Empirical Assessment", ICFAI Journal of Bank Management, Vol.6, No.3, August, pp.7-28.In the initial model, the sign of the coefficient of advance

Table 1: Regression of NPAs with Loan Variables - State Bank of India (SBI)

Predictors	Regression Models		
	Initial Model	First Subset Model	Second Subset Model
Intercept	8.2661 (1.19)	7.8678** (3.61)	7.2123** (17.39)
Non Performing Assets to Total Advances of last year (t-1)	-0.0743 -(0.25)	-0.0631 -(0.31)	
Advances to Total Assets	-7.3997* -(2.54)	-7.4071* -(2.93)	-6.6749** -(8.69)
Size (Log of Total Assets)	-0.0256 -(0.06)	-3.6293* -(2.92)	-3.4119** -(3.68)
Δ Advances (Current year)	-3.6990 -(2.02)	-2.8951* -(2.33)	-2.7205* -(2.72)
Δ Advances (Previous year)	-2.9618 -(1.65)		
R^2	0.9775	0.9774	0.9769
Adjusted R^2	0.9399	0.9549	0.9630
F Value	26.03**	43.33**	70.50**
Degrees of freedom	5..3	4..4	3..5

Figures in brackets are t-values; *Significant at 5% level; **Significant at 1% level @5% 2.30 and @1% 3.36

Table 2: Comparison of Regression Models for NPAs with Best Predicting Loan Variables between State Bank of India and other selected public sector banks Combined

Predictors	Regression Model with Best Predictable Loan Variables		Z value for the difference in Beta Coefficients
	State Bank of India	Other selected public sector banks	
Intercept	3.5751 (1.33)	-9.8105* -(2.42)	
Non Performing Assets to Total Advances of last year (t-1)	0.4200 (1.92)	1.0059** (6.70)	-2.22*
Advances to Total Assets	-3.1125 -(0.95)	17.9542* (3.11)	-3.17*
Δ Advances (Current year)	-3.2735 -(1.71)	-6.4224* -(2.89)	1.07
R^2	0.9671	0.9874	
Adjusted R^2	0.9506	0.9811	
F Value	58.78**	157.16**	
Degrees of freedom	3..6	3..6	

Table 3: Results of Fisher's Z test Comparing R^2 values of the Regression Models for NPAs with Loan Variables between Two Banking Groups

N	R^2	R	Zr	SE	Z value
12	0.9671	0.9834	2.3920	0.4714	-1.03^{NS}
12	0.9874	0.9937	2.8770		

Table 4: Regression of NPAs with Macro Economic Variables – State Bank of India (SBI)

Predictors	Regression Models		
	Initial Model	First Subset Model	Second Subset Model
Intercept	35.5105**	30.3720**	27.2336**
	(4.19)	(5.91)	(5.52)
	-0.3273	-0.3403*	-0.2651
	-(0.84)	-(2.56)	-(2.04)
Money Supply	-2.4264	-2.2013**	-2.1434**
	-(1.83)	-(5.63)	-(5.16)
Real Effective Exchange Rate (REER)	-0.0270		
	-(0.17)		
Interest Rate	-0.2047	-0.1675	
	-(1.23)	-(1.41)	
Inflation Rate	0.0391		
	(0.18)		
R^2	0.8667	0.8436	0.7920
Adjusted R^2	0.6999	0.7654	0.7356
F Value	5.20^{NS}	10.79**	13.33**
Degrees of freedom	5..4	3..6	2..7

Figures in brackets are t-values; *Significant at 5% level; **Significant at 1% level.

Table 5: Regression of NPAs by Combining Best Predicting Loan and Macro Economic Variables – State Bank of India (SBI)

Predictors	Regression Models		
	Initial Model	First Subset Model	Second Subset Model
Intercept	-0.6710	6.2306**	7.2123**
	-(0.25)	(6.14)	(17.39)
Advance to Total Assets	-9.7242**	-6.4239**	-6.6749**
	-(7.01)	-(6.07)	-(8.69)
Δ Advances (Current year)	-5.8063**	-4.7787**	-3.4119**
	-(6.19)	-(3.23)	-(3.68)
Δ Advances (Previous year)	-3.1582**	-3.0182*	-2.7205*
	-(4.46)	-(2.46)	-(2.72)
	0.1370*	0.0543	
	(2.72)	(0.79)	
Money Supply	0.7145*		
	(2.65)		
Interest Rate	0.1310**	0.0675	
	(3.73)	(1.52)	
R^2	0.9972	0.9875	0.9769
Adjusted R^2	0.9889	0.9666	0.9630
F Value	119.62**	47.28**	70.50**
Degrees of freedom	6..2	5..3	3..5

Table 6: Regression of NPAs by Combining Best Predicting Loan and Macro Economic Variables – State Bank of India and other selected public sector banks Combined

Predictors	Regression Models		
	Initial Model	First Subset Model	Second Subset Model
Intercept	-6.6673	-6.4620	-11.3303*
	-(0.93)	-(1.16)	-(2.81)
Non Performing Assets to Total Advances of last year (t-1)	0.8234**	0.8154**	0.9517**
	(5.54)	(5.79)	(10.58)
Δ Advances (Current year)	-2.3959	-2.6442	
	-(0.93)	-(1.24)	
	-0.0208		
	-(0.21)		
Money Supply	0.6409	0.6617	1.0309*
	(1.15)	(1.44)	(2.88)
Interest Rate	0.0449		
	(0.66)		
R^2	0.9584	0.9548	0.9504
Adjusted R^2	0.9435	0.9463	0.9446
F Value	64.43**	112.57**	162.87**
Degrees of freedom	5..14	3..16	2..17

Figures in brackets are t-values; *Significant at 5% level; **Significant at 1% level.

Table 7: Comparison of Regression Models for NPAs by Combining Best Predicting Loan and Macro Economic Variables between SBI and other selected public sector banks Combined

Predictors	Regression Model with Best Predictable Macro Economic Variables		Z value for the difference in Beta Coefficients
	State Bank of India	Other selected Public sector banks	
Intercept	-5.0666	-19.8555*	1.66^{NS}
	-(1.26)	-(2.49)	
Non Performing Assets to Total Advances of last year (t-1)	0.8013**	1.1022**	-1.59^{NS}
	(7.29)	(7.15)	
Money Supply	0.4857	1.7899*	-1.64^{NS}
	(1.38)	(2.51)	
Interest Rate	0.9613	0.9590	
	0.9503	0.9473	
Inflation Rate	87.00**	81.83**	
	2..7	2..7	

Table 8: Results of Fisher's Z test Comparing R^2 values of the Regression Models for NPAs with Combined Loan and Macro Economic Variables between Two Banking Groups

N	R^2	R	Zr	SE	Z value
12	0.9613	0.9805	2.3093	0.4714	0.06^{NS}
12	0.9590	0.9793	2.2798		

DOI No. 10.5958/0973-9343.2014.01242.3

MARKETING STRATEGIES OF APSRTC TO BOOST UP OCCUPANCY RATIO WITH SPECIAL REFERENCE TO WARANGAL REGION-AN EMPIRICAL STUDY

B. Prakash★ P. Rajalingam★★ G. Umamaheshwar Rao★★★

The concept "Marketing" is newly emerging in the field of services sector in India. For the first time in the country amongst the sixty and odd State Transport Undertakings, Marketing Department was established in APSRTC during the year 1994 with a view to take stock of the services rendered to its customers and to improve the same besides implementing various marketing strategies. The application of marketing concepts would enable to develop various passenger friendly schemes to help retain the customers in its fold as well as attract new clientele. This study not only helps APSRTC, but also other State Road Transport Organizations existing across the nation for rendering effective and efficient friendly transport services. The study is undertaken to understand the present marketing practices of APSRTC and chronicle them to enable the enthusiastic sister organizations working in the same / similar industry to make use of them so that the wheel need not be reinvented. The study also endeavors to find gaps, if any, in the organization and to make required recommendations. APSRTC is the largest public transport organization in the world with over 19,000 buses plying on the road every day. It has been recognized by the Guinness book of world as well, since 1996, there has been a continuous drop of occupation in the buses i.e., less number of passengers traveling on APSRTC buses, leading to less revenue resulting in mounting losses. In the year 2005, certain marketing initiatives were launched educating every single employee in the Corporation about the status of the Corporation and need for a change to attract passenger community to get back to APSRTC buses. The main emphasis was to make the crew pro-active in attracting the passengers, make the crew more responsible, well behaved with the passengers to improve the image and thereby occupancy of buses. After implementation of these initiatives, there is a significant growth in occupancy in the Corporation, like-wise in Warangal District where the survey has been conducted.

APSRTC stands for Andhra Pradsh Road Transport Corporation. It is the largest public transport organization in the world with over 19,000 buses plying on the road every day. It has been recognized by the Guinness book of world as well, since 1996, there has been a continuous drop of occupation in the buses i.e., less number of passengers traveling on APSRTC buses, leading to less revenue resulting in mounting losses. In the year 2005, certain marketing initiatives were launched educating every single employee in the Corporation about the status of the Corporation and need for a change to attract passenger community to get back to APSRTC buses. The main emphasis was to make the crew pro-active in attracting the passengers, make the crew more responsible, well behaved with the passengers to improve the image and thereby occupancy of buses. After implementation of these initiatives, there is a significant growth in occupancy in the Corporation, like-wise in Warangal District where the survey has been conducted there was a significant growth of occupancy in the buses from 64% to 67%. Now, a need has been felt to assess the impact of these marketing initiatives in the present day context and how they can be improved further to capture and increase in occupancy. There are eight Depots in Warangal spread out across the district operating 725 buses.

Objectives of the Study

1. To assess the status of the implementation of marketing initiatives such as Shout & Load, Alight on Request, Hail & Board and Halt & Go.
2. Prepare inter depot comparisons for implementation of the various marketing initiatives.
3. To identify the depots which are showing high percentage of non implementingcrew.
4. To find out the usage of prohibited items sent as Pan, Ghutka, Mobile Phones while on duty.

★ **Professor, Lal Bahadur College, Warangal (Andhra Pradesh)**
★★**Principal, Government Degree College, Peddapally (Andhra Pradesh)**
★★★**Assistant Professor, CMR College, Hyderabad (Andhra Pradesh)**

5.To analyze the behavior of the crew while performing their duties and assess the pro-active behavior of the crew in helping the aged, children etc.

Research Data and Methods

For the purpose of the study/survey the data has been collected from primary sources only

1. The Survey is planned in such a way that the majority of the routes have been covered to arrive at a general pattern of responses on all the above objectives.
2. Routes have been identified and a route course is designed for each enumerator to follow so that maximum number of trips can be covered.
3. 43 Trainee Conductors have been used for survey. These Conductors are fresh contract Conductors yet to have experience on the job and are from Nizamabad District, hence have no local knowledge of staff, routes etc. They had no affiliation to any local staff as it was their first visit.
4. Thorough briefing was done for a week to make them understand the purpose and make them identify and be a part of the survey.
5. A questionnaire was used to elicit common responses from the enumerators.
6. The survey was done in "INCOGNITO". The enumerators have boarded the bus as passengers and bought tickets and traveled in the bus and recorded the observations. Please refer Figure 1.

Limitations of the Study

1.The behavior pattern identified in the survey has not been cross-checked on crew – evaluated in this survey.
2. It is only an indicating survey and has not been very exhaustively carried out.
3. Some of the enumerators may have felt that punishments on the employees will be imposed, of a bad behavior of an employee is reported.

Analysis of the Data

HALT AND GO:

This marketing initiative is to educate the crew to stop the bus for 1-2 minutes in every traffic generating point so as to wait for the passengers and pick up. This initiative combats the AUTOS menace on the road; the objective is to wean away passengers from the autos. Please refer Pie Chart 1.

47% of the buses have not followed the initiative of stopping the buses for two minutes at important traffic generating points, this definitely reduces the revenue potential of the buses as well as it creates a bad image in the eyes of the public

HAIL AND BOARD:

This marketing initiative is to educate the crew to stop the bus and pick up the passengers whenever the passenger hails for the bus by waving hand, In the overall position of the district the deficiencies are only to an extent of %. But the major deficiencies are found only in two depots i.e. Jangoan and Thorrur. 7% of the crew in each depot has not followed this marketing initiative. Please refer Pie Chart 2 & 3.

SHOUT AND LOAD

This marketing initiative is the most important one to revive the fortunes of APSRTC in the state, by announcing the destinations and calling people to board the buses has brought a tremendous image to the corporation, people have recognized that this public sector employees have learnt to meet the competition hence the patronage by the people has increased in multifold thereby bringing in extra revenues.

In this initiative Warangal region is definitely lagging behind as per the results of the survey. The number of non implementing crew is 104 against 81 regularly implementing crew. The potential conversions to regular implementation are to an extent of 94. Please refer Pie Chart 4.

In depth analysis of each depot mad shows that Warangal-1 depot shows highest numbers of crew not implementing this initiative followed by Thorrur and Jangoan depots. The implementation of this marketing initiative is very satisfying at Warangal 2 depot. Please refer Pie Chart 5.

Perception on the crew behaviour

The general behavior of the crew was to be assessed through their way of talking to the passengers and among themselves and the way the tickets are issued etc. Please refer Pie Chart 6.

The region figures show that 17% of the conductors and 21% of the drivers require training for better behavior

The behavior of the crew analyzed in various depots shows that a high percentage of crew at Janagoan, Thorrur and Warangal-1 depots requires training to improve their behavior. Please refer Pie Chart 7.

Attitudes which are visible and affect the image of the corporation

The crew was observed for general behavior and attitudes which have a bearing on the minds of the passengers. The crew is expected to lend a helping hand to the aged, Ladies and children in this aspect the crew of this region is not performing well. About —— % crew are not showing concern tot the above categories. Please refer Pie Chart 8.

Another aspect of attitudes is chewing pan/ghutka while on duty which gives a very bad impression to the passengers; time and again the crew was asked to desist from the practice of chewing tobacco while on duty the expected result was that none of the crew was supposed to do this. But the data shows that there are about 15 drivers and 10 conductors resorted to this practice. Please refer Pie Chart 9.

Another most important attitude which affects the driving and also functioning of the conductor is usage of mobile phone while on duty. No crew member is expected to make use of cell phone while on duty but however 7% of the conductors and 4% of the drivers are in possession of cell phone and 9 conductors and 4 drivers were found using these instruments while on duty.

Conclusion

In the most important marketing initiatives of APSRTC i.e., Hail & Board which literally has created an excellent image to the Corporation in so far as the buses stop for passengers who request for the buses to stop. Warangal Region crew has achieved a very high percentage of compliance out of a total sample of 283 crew observed, 271 crew have been following this initiative. This initiative needs to be sustained at this level by continuously reminding the crew of the importance of this initiative.

Though Hail & Board has been still successfully implemented but the other initiatives such as Alight on Request, Halt & Go and Shout & Load still there is a lot of scope for improvement. Especially there are three depots whose crew has shown higher percentage of deficiencies in all the marketing initiatives, there is a need at Warangal 1, Thorrur and Jangoan depots to counsel the crew to achieve better performance in all the marketing initiatives.

As far as the Behavior aspects of Drivers/Conductors are concerned, not even one Driver or Conductor is expected to misbehave or show improper behavior, this aspect has to be taken-up seriously and training has to be increased to the Drivers and Conductors.

uggestions

- Leaflets have to be prepared projecting the schemes where the Region and the Depots lag behind and make an effort to motivate the crew through these leaflets.
- Depot Managers/Supervisors to be advised to hold gate meetings to draw comparison with the other depots in implementation of schemes, so that a competitive atmosphere is created in implementation of these schemes.
- Posters need to be printed on various schemes to increase the awareness on the importance of various schemes.
- Customer Relation Coordinators meeting to be and all these points will be explained to them in detail so that crew can be counseled with some hard facts.
- Certain schemes lag behind on some specific routes, Supervisors and Managers would be advised to monitor these routes very carefully to achieve better results.
- Checking Squad members to be enlightened with this data so that all these points become a general checking feature from now.

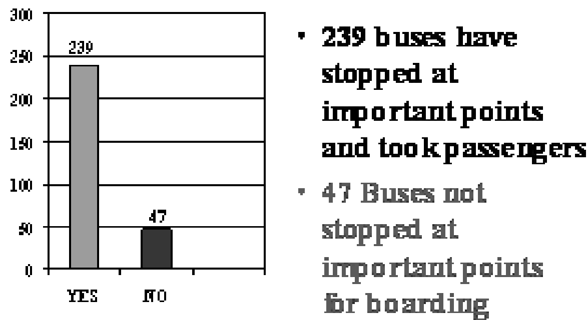
Figure 1

SAMPLE SIZE

DEPOTS	NO.OF TRIPS	SAMPLE SIZE (Buses)	% COVERED
HNK	225	52	23.11
WL-1	194	31	15.97
MHBD	360	16	4.44
PRKL	512	24	4.68
NSPT	348	30	8.62
JN	502	43	8.56
TRR	387	44	11.36
WL-2	260	50	19.23
REGION	2789	290	10.39

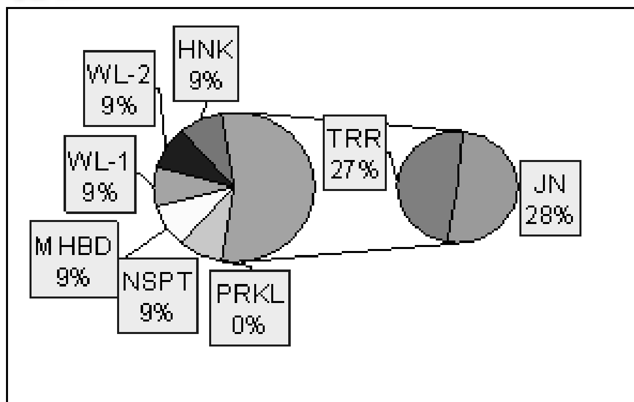
Pie Chart 1

HALT AND GO AT IMPORTANT POINTS IN THE REGION



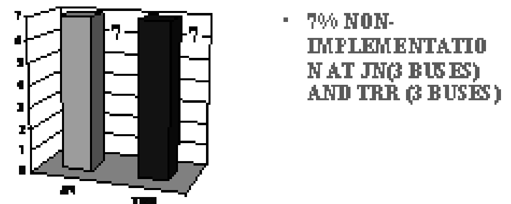
Pie Chart 2

HAIL AND BOARD % NOT STOPPED-REGION



Pie Chart 3

HAIL AND BOARD In Jangoan and Thorrur Depots

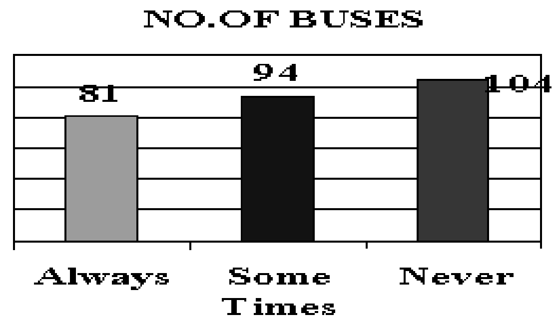


Pie Chart 4

Shout And Load

REGION

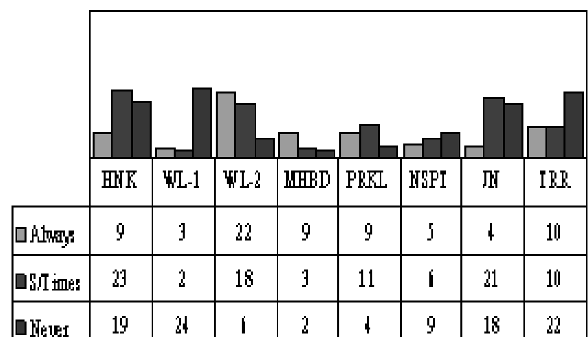
NO.OF BUSES



Pie Chart 5

Shout And Load DEPOTS

NO.OF BUSES

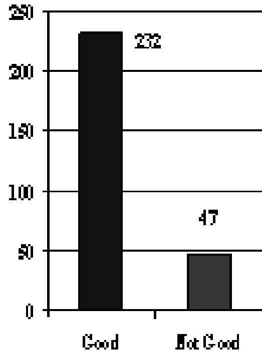


	HNK	WL-1	WL-2	MHBD	PRKL	NSPT	JN	TRR
Always	9	3	22	9	9	5	4	10
S/Times	23	2	18	3	11	6	21	10
Never	19	24	6	2	4	9	18	22

Pie Chart 6.1

Perception on Crew Behaviour

GENERAL BEHAVIOUR OF CONDUCTORS IN THE REGION

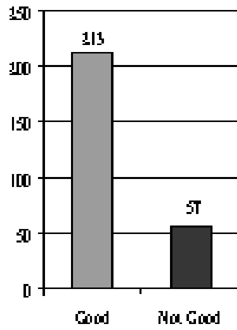


- THE BEHAVIOUR OF 17% OF THE CONDUCTORS IS NOT UPTO THE GENERAL EXPECTATIONS

Pie Chart 6.2

Perception on Crew Behaviour

DRIVERS GENERAL BEHAVIOUR IN THE REGION



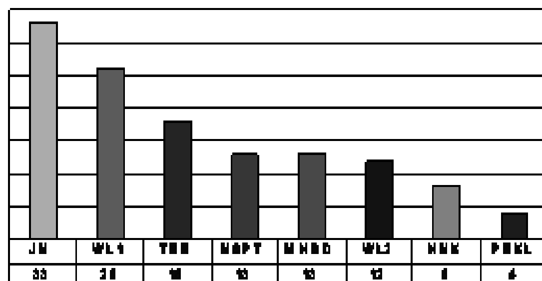
- 21% OF THE DRIVERS HAVE TO CHANGE THEIR BEHAVIOUR

Pie Chart 7.1

Perception on Crew Behaviour

CONDUCTORS GENERAL BEHAVIOUR-IN THE DEPOTS

% OF CONDUCTORS WITH POOR BEHAVIOR

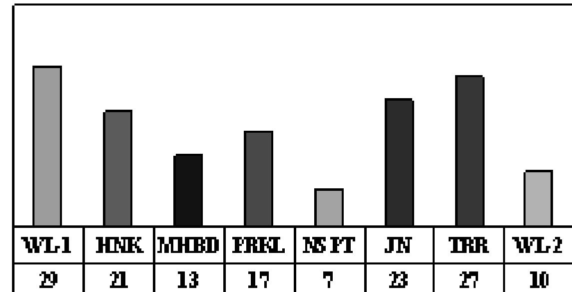


Pie Chart 7.2

Perception on Crew Behaviour

DRIVERS GENERAL BEHAVIOUR IN THE REGION

% OF DRIVERS WITH POOR BEHAVIOUR

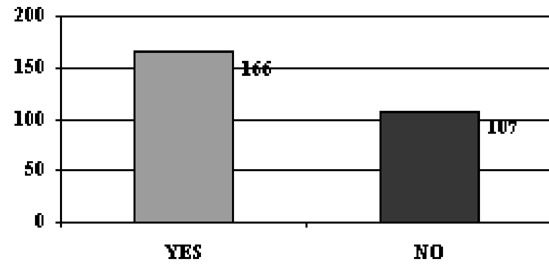


Pie Chart 8

OTHER FEATURES

HELP TO LADIES, CHILDREN & AGED PEOPLE IN THE REGION

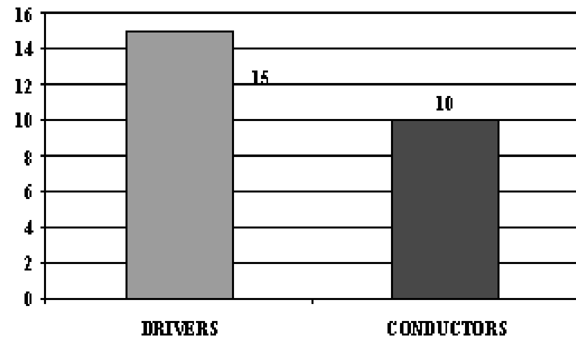
NO. OF BUSES



Pie Chart 9

OTHER FEATURES

USAGE OF PAN/GHUTKA BY DRIV/COND IN THE REGION



DOI No. 10.5958/0973-9343.2014.01243.5

A COMPARISON OF FACTORS EFFECTING MOTIVATION OF MIDDLE LEVEL EMPLOYEES OF PUBLIC AND PRIVATE SECTOR BANKS IN HARYANA

Jaya Bhalla★

Many people know motivation as the driving force behind an action. Motivation can be considered the state of having encouragement to do something. Why do people do what they do? Some people think that they can find purpose in the things that motivate them. Others just see the motivation and react automatically. This research paper reviewed the motivation with particular regards to the performance of employees in a Banking Sector work environment.The study is on motivational factors that put impact on the efficiency,effectiveness and productivity of employees. Banking sector including private and public sector banks are considered in the study. This study finds out the motivating and de-motivating factors of middle level employees of different banks in Haryana.

The commercial banks play important role in worldwide economy and their employees are the best sources of delivering good services to their customers. Excellent services provided and offered by employees can create a positive perception and ever lasting image in the eyes of banks' customers. The individual motivation of a bank employee plays a major role in achieving high level satisfaction among its customers (Petcharak, 2004). With increase in the growth of the service industry, the banks at present struggle for retaining employees possessing the capabilities of quality service. Research finds that it is a challenge for management today to motivate employees in Private as well as Public Sector banks in Haryana to provide quality services as it has been observed that there is tough competition among the Banks in to provide best services and to satisfy the needs of their customers. Satisfaction of banks' customers depends on the quality of services and the way banks employees render these services to their customers. Bank employees' satisfaction, loyalty, commitment and motivation ensure the satisfaction of customers.Motivation can be divided into two basic types: intrinsic motivation and extrinsic motivation.

Intrinsic Motivation

Intrinsic motivation reflects the desire to do something since it is enjoyable. If we are intrinsically motivated, we would not be worried about external factors such as praise or awards. If we are intrinsically motivated, the enjoyment we experience would be sufficient for us to perform the activity in the future in much better way. Writing short stories because you really enjoy writing them, reading a nonfiction book because you are curious about the topic, and playing chess because you enjoy effortful thinking are some of the intrinsic motivation examples.

Extrinsic Motivation

Extrinsic motivation reflects the desire to do something because of external factors such as awards, money, and praise. People who are extrinsically motivated may not enjoy certain activities. They may only wish to engage in certain activities because by performing they will be entitled for something which will enhance their social or financial status or receive some external reward. There are many possible extrinsic motivation examples. The writer who only writes poems to be submitted to poetry contests would be one example of extrinsic motivation. The person who dislikes sales but accepts a sales position because he or she desires to earn an above average salary is another example of extrinsic motivation.

I. Review of Literature

The success of any organization depends on the ability of managers to provide a motivating environment for its employees. The challenge for managers today is to keep the staff motivated and performing well in the workplace. The manager has to know the behavior of each employee and what might motivate each one individually. By understanding employees' needs, managers can understand what rewards to use to motivate them. The goal of most companies is to benefit from positive employee behavior in the workplace by promote a win–win situation for both the company and workers. The MARS model of Individual Behavior is an excellent medium for creating the win-win relationship between the employer and employees to understand motivation we have to know MARS Model of individual behavior.

★ **Assistant Professor (HRM), National Institute of Financial Management, Faridabad (Haryana).**

According to Webster's New Collegiate Dictionary, a motive is "something a need or desire that causes a person to act". "Motivate, in turn, means "to provide with a motive," and motivation is defined as "the act or process of motivating". Relative to this, Minner, Ebrahimi, and Watchel, (1995) state that in a system sense, motivation consists of these three interacting and interdependent elements, i.e., needs, drives, and incentives. Managers and management researchers have long believe that organizational goals are unattainable without the enduring commitment of members of the organizations.

Bartol and Martin (1998) describe motivation as a power that strengthens behavior, gives route to behavior, and triggers the tendency to continue. This explanation identifies that in order to attain assured targets; individuals must be satisfactorily energetic and be clear about their destinations.

Luthan (1998) defines motivation as, "a process that starts with a physiological deficiency or need that activates behaviour or a drive that is aimed at a goal incentive". Therefore, the key to understanding the process of motivation lies in the meaning of, and relationship among needs, drives, and incentives.

Stoke in (1999) submitted that motivation is a human psychological characteristic that contributes to a person's degree of commitment. It includes the factors that cause, channel, and sustain human behavior in a particular committed direction. Stoke goes on to say that there are basic assumptions of motivation practices by managers which must be understood and are as under.

(i) First, that motivation is commonly assumed to be a good thing. One cannot feel very good about oneself if one is not motivated.

(ii) Second, motivation is one of several factors that go into a person's performance. Factors such as ability, resources, and conditions under which one performs are also important.

(iii)Third, managers and researchers alike assume that motivation is in short supply and in need of periodic replenishment.

(iv) Fourth, motivation is a tool with which managers can use in organizations. If managers know what drives the people working for them, they can tailor job assignments and rewards to what makes these people "tick." Motivation can also be conceived of as whatever it takes to encourage workers to perform by fulfilling or appealing to their needs.

As per Harrington, (2003) over-achieving, talented employees are the driving force of all firms so it is essential that organizations strive to motivate and hold on to the best employees. The quality of human resource management is a critical influence on the performance of the firm. Concern for strategic integration, commitment, flexibility and quality has called for attention for employees motivation and retention. Financial motivation has become the most concern in today's organization, and tying to Maslow's basic needs, non-financial aspect only comes in when financial motivation has failed.

Wood in (2006) asserted that most productive and successful people are those who can excellently manage their time. The resource of time has to be properly managed for success in the workplace to be achieved. Time management skills are essential for successful people. To increase productivity at work need concentration of time management. This is the ability to focus and accomplish the most vital priorities. The environment must be set and distractions should be avoided.

According to Burney, (2007) the level of performance of employees relies not only on their actual skills but also on the level of motivation each person exhibits. Motivation is an inner drive or an external inducement to behave in some particular way, typically a way that will lead to rewards.

According to Azash (2011)Job satisfaction is a pleasurable or positive emotional state resulting from the appraisal of one's job or job experience. In this study an investigation is carried out to test the Hypothesis of Herzberg's two-factor theory.The results found that job satisfaction is caused by both motivation and hygiene factors. the important motivational factors perceived by public sector employees are achievement (4.5818), advancement (4.3636), interpersonal relations (4.1909), working conditions (4.0909), policy (4.0818), personal life (4.0545).the perceived important motivational factors by private sector bank employees are achievement (4.4767),interpersonal relations (4.3140), supervision (4.3256), policy(4.1860).

According to Jain (2012)Efficient human resource management and maintaining higher job satisfaction level in banks determine not only the performance of the bank but also affect the growth and performance of the entire economy. So, for the success of banking, it is very important to manage human resource effectively and to find whether its employees are satisfied or not. Only if they are satisfied, they will work with commitment and project a positive image of the organisation.

Objectives of the Study

The study will help in grading the effects of motivational

factors like:-

1.To find out the factors that motivates the bank employees to perform best in improving their productivity.

2.To list and segregate the positive and negative factors of motivation.

To give suggestions to the banking sector about the factors influencing Employee motivation level in the organization.

II. Research Design & Methods

Analytical Research Designis used for the study, in which the researcher uses facts or information to make a critical evaluation. The sampling method was method of convenience.Ten Private Sector Banks and Ten Public Sector Banks in Haryana were surveyed for the purpose. The study depends mainly on the primary data collected through a well-framed and structured questionnaire to elicit the well-considered opinions of the respondents.For data collection, the Self Report Questionnaire (SRQ) method was employed. The SRQ and brief interview was designed in such a way that those who preferred to fill it up themselves had the option to do so. The brief interviews provided considerable opportunity to respondents to moderate deliberations and to determine the content and form of the data. The SRQ was consisting of eight parts and fifty simple questions. All 50 questions were short, clear and easy to be responded by check list method.

Hypotheses:

Ho: There is no significant difference in motivational factors between employees of Public Sector Banks & Private Sector Banks in Haryana.

$H_{1:}$ There is a significant difference in motivational factors between employees of Public Sector Banks & Private Sector Banks in Haryana.

III. Results & Analysis

For the purpose of analysis and presentation, version 15 of the software ‘Statistical Package for the Social Sciences (SPSS)’ commonly used for statistics and mathematical reasons is used for carrying out accurate results. The study was conducted on 194 executives of ten nationalized public sector banks and ten private sector banks in Haryana. The present research attempted to study the factors affecting motivation of employees working in banking Sector. Keeping in view the objectives of the study, the results were analyzed and subjected to meaningful presentations. The results show no major variation for Public Sector Banks or Private Sector Banks. The analysis of the data clearly reflects that there is no difference in motivational factors for employees working in Public Sector Banks and Private Sector Banks. Using the data, “t” test was applied. The calculated value comes out to be -1.562 against the table value of 1.960. This shows that the null hypothesis i.e. there is no significant difference in motivational factors between employees of Public Sector Banks & Private Sector Banks in Haryana” is accepted.

Motivating factors in Public Sector Banks

The study explored the perception of the executives about the factors that motivated them to work to the best of their capability. The responses of the respondents were distributed in following eight variables.

1.Social Environment in office

2.Office Infrastructure

3.Incentives & Benefits

4.Organisational Policies

5.Developmental Opportunities

6.Transparency in Appraisal System

7.Performance based Rewards

8.Office environment

Nearly 13.52% of the executives reported that an interaction with colleagues and superiors motivated them to do their assigned duties more effectively. While 8.95% felt that they got motivated by good office infrastructure. As most of the banks branches are run in rented accommodation, the contribution of his variable is not very significant. Interesting 13.98 % of the respondents consider the incentives, as the most motivating factor. This factor is the highest contributing motivational factor among all the variables. Good organizational policies attract 12.71 % employees in public sector banks. Keeping good salary scale contributes most i.e. average 4.2 points out of 5.0 points allotted to salary scale variable in SRQ. 12.66% employees consider the developmental opportunities available in the bank, a motivation factor to work with best of its capabilities. Training programmes carried out for development of the employees is one of the major motivational contributing factor.

Transparency in appraisal system was found to be one of the important motivational factor. 12.34% of the respondent expressed in affirmative that the appraisal system should be transparent and the good workers should be appreciated appropriately and it should be appropriate for achievement of individual and organizational goals. 12.82% of the respondent opined that the performance should be linked with the reward and punishment system. The good workers should be rewarded appropriately. Job security for

outstanding performers obtained 3.82 points out of 5.00 points. While 13.01 % of the employees were found to be motivated by office environment like Praises and recognition from seniors, opportunities for future growth,Image of the organization, Manageable work load & Job matches with the interest & skills of employees. It was opined thatwhen they got the due recognition and appreciation for the tasks that they had completed successfully they got the motivation to work harder for future assignment. Similar analysis was carried out with the data obtained from the employees of the Private Sector Banks. Near about same result were obtained for almost each variable effecting motivation. Please refer Pie Chart1

Motivating factors in Private Sector Banks

Nearly 13.35% of the executives reported that an interaction with colleagues and superiors motivated them to do their assigned duties more effectively. While 9.51% felt that they got motivated by good office infrastructure. As most of the banks branches are run in rented accommodation, the contribution of this variable is not very significant. 12.47 % of the respondents consider the incentives, as the most motivating factor. Better organizational policies attract 13.38 % employees in private sector banks. Keeping good salary scale contributes most i.e. average 4.4 points out of 5.0 points allotted to salary scale variable in SRQ. 12.74% employees consider the developmental opportunity available in the bank is a motivation factor to work with best of its capabilities. Training programmes carried out for development of the employees is one of the major motivational contributing factor. Transparency in appraisal system was found to be one of the important motivational factors, even higher than in Public Sector Banks i.e. 13.33% in comparison to 12.34% of the respondent expressed in affirmative that the appraisal system should be transparent and the outstanding workers should be appreciated appropriately.

12.29% of the respondent opined that the performance should be linked with the reward and punishment system. The good workers should be rewarded appropriately. The performance based promotion system obtained 3.56 points out of 5.00 points. While 12.93 % of the employees were found to be motivated by office environment like praise and recognition from seniors, opportunities for future growth,Image of the organization, Manageable work load & Job matches with the interest & skills of employees. It was opined thatwhen they got the due recognition and appreciation for the tasks that they had completed successfully they got the motivation to work harder for future assignment. Please refer Pie Chart 2.

IV. Conclusion

Each bank branch was found to have staff of about 5-15 people. It was seen that there was a good interaction between the executives after the customer dealing hours. This made the environment very interactive and light. The people seemed to be re-energized after the hectic day's schedule.An executive of private sector bank reported, "Most of us here are of the same age group and keep on interacting with each other. This is the way we keep ourselves motivated and fresh to complete the tasks." Another executive reported, "When I am not able to do a task well, I feel that next time I have to do it very well. I feel motivated." Some of the respondents felt that the following should also be practiced as motivation factors in addition to the existing one's –

1. Promotion should be on performance basis and not on time factor.
2. Opportunity to work in various sections with ample guidance needs to be strengthened
3. Core group formations for identified work accomplishment
4. Flexible working style and time for innovative practices.
5. Good performers should be offered their choice for place of posting along with monetary benefit.

De-motivational Factors

While interacting with the employees it was observed that the employees generally face following difficulties in their daily working:—

1.Lack of Independence
2.Non-Cooperative environment in Bank
3.Over demanding customers
4.Lack of work appreciation
5.Un-attractive office ambience
6.Lack of knowledge on their part

It was observed that during the banking hours, there was a huge flow of customers to make transactions of various kinds in the bank. Each executive was seen to be constantly occupied with customers handling their queries and doing the transactions. But, it was seen that at times there were customers who were demanding certain actions like fast cheque clearance , better account opening schemes, service charge exemptions, etc which were out of the scope of the executive at desk. In response to this question, an executive reported, "Irritating customers de-motivate the most". While interacting with the executives, it was found out that the executives felt the need of co-operation from other executives while they dealt with the customer at their

desk as some instant information, document, etc of some kind or the other may be needed. If the colleagues did not co-operate at that point, handling some customers became an up-hill task. It was evident that some executives got de-motivated when they did not get cooperation from their colleagues

Based on the findings of this study following is recommended to motivate the employees working in banking sector to make them perform to the best of their capability for overall progress of the organization:—

1. Fast track promotion for the performers
2. Outdoor meetings and group discussions
3. Getting recognition in front of top management motivates to perform better
4. Team work
5. Good working environment. The office infrastructure should be attractive and sufficient.
6. New challenges
7. Incentive schemes. Better salary scale etc.
8. Supportive staff
9. Sharing of pressure
10. Fair distribution of work
11. Guidance from superiors
12. Commendation certificates
13. Medical facilities for self and family
14. Leave travel concession

Motivation may vary from individual to individual. But the study shows that considering above mentioned points while making policies for enhancing motivational factors, the desired result can be obtained. We have to focus on all these and other environmental factors to draw a best suited motivational plan for the banking organization.

References

Bowey, Angela (2005). Motivation: The Art of Putting Theory into Practice. European Business Forum, Issue 20, Winter 2005, pp.17-20.

Buelens, Marc, & Van den Broeck, Herman (2007). An Analysis of Differences in Work Motivation between Public and Private Sector Organizations, Public Administration Review, Vol. 67, No. 1, pp.65-74.

Charles Glisson, M. D. (1988). " Predictors of Job Satisfaction and Organisational Commitment In Human Service in Organisation". Administrative Science Quaterly, , 33 (1), 282-296.

Cheri Ostroff. (1992). " The Relationship Between Job Satisfaction, Attitudes and Performance-An Organisational Level Anlysis ,". Journal of Applied Psychology,L , 77 (6), 963-974.

Chowadary, P. L. (1966). "Perceived Importance of Job Factors by Technical and Non-Technical Employees",. Personal Psychology , 19, 287-296.

French W.L.andC.H.Bell/ organizational development/ (4th edn)//Prentice Hall/ New Delhi/1995.

Herzberg, Frederick (1968). One More Time: How Do You Motivate Employees?,Harvard Business Review, January 2003 (reprint), pp.87-96.

Jon L. Pierce & Donald G. Gardner with Randall B. Dunham/ Management Organisational Behavior/South Western Cengage learning India Pvt. Ltd./Janpath New Delhi/2008.

Jerld Greenburg/managing / organizational behavior/ Oxford university press/New Delhi/2008.

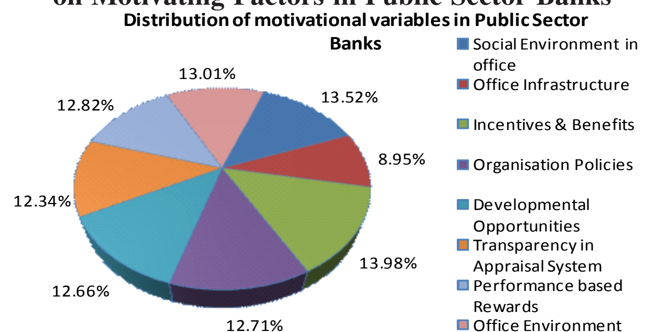
Khanka, S.S, Organizational Behavior, S. Chand and Company Limited, New Delhi, 2008.

Keller, "satisfaction from job facilities", Journal of IMS group (bi-annual journal of IMS, Ghaziabad; volume 5 no.1, Jan-June, 2008. (ISSN no. 0973-824x)

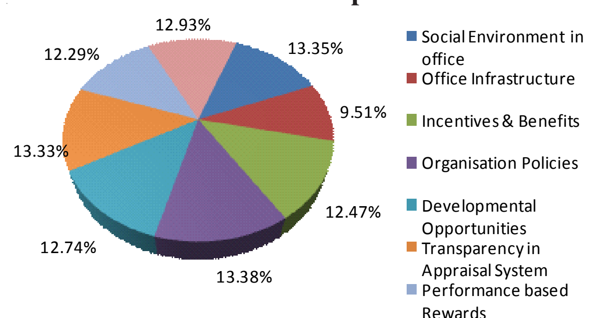
Singh Kavita / organizational behavior/ Dorling Kindersley India Pvt. Ltd./New Delhi/2010

Spector, P. E. "Measurement of human service staff satisfaction: Development of Job Satisfaction Survey." American Journal of Community Psychology, Vol. X, No. 13, 1985, pp. 693-713.

Pie Chart 1: Distribution of the Respondents Based on Motivating Factors in Public Sector Banks



Pie Chart 2: Distribution of the respondent based on motivational factors in private sector banks



DOI No. 10.5958/0973-9343.2014.01244.7

QUALITY OF WORKLIFE
A STUDY IN A GARMENTS UNIT, TIRUPUR

K. Manikandan★ R. Vijaya Rajya Synthia★★

Quality of Work Life (QWL) has received increased attention internationally and nationally. Its scope is much broader than Labour Legislation in India. In this context, studies on Quality of Work Life in India assume greater significance. Keeping this in view, this article makes an attempt to examine the Quality of Work Life in a garments unit in Tirupur. The data relevant to the study were collected from 100 respondents working in the sample unit through administering interview schedule. The study reveals that the organization is doing well in certain aspects of Quality of Work Life viz., convenient working hours, health and safety measures, facilities provided, productive work environment, pay, recognition, job security, good treatment and balancing work life and personal life. The organization seems to be weak in respect of succession planning, relationship with superiors and peers, team work and working conditions. Based on the findings the paper has suggested measures to improve Quality of Work Life in the organization studied.

Quality of Work Life refers to a favorable job environment for workers. It refers to the level of happiness with one's career. Quality of Work Life (QWL) is viewed as an alternative to the control approach of managing people. The Quality of Work life approach considers people as "assets" to the organization rather than as "costs". Research has shown that good Quality of Work Life leads to physically and psychologically healthier employees with positive feelings. People perform better when they are allowed to participate in managing their work and make decisions. Successful organizations support and provide facilities to their people to help them to balance the scales. In this process, organizations are coming up with new and innovative ideas to improve the quality of work life of every individual in the organization. Various programs like flextime, alternative work schedules, compressed work weeks, telecomputing etc., are being adopted by these organization. Quality of Work Life has received increased attention and importance in both industrialized as well as developing countries of the world. In India, its scope seems to be broader than much labor legislation enacted to protect the workers. It is of great importance, in this context, to examine the quality of work life obtained in industrial units. Such an examination would help finding out gaps, practical problems and formulating suitable measures to improve Quality of Work Life (QWL) in industrial organizations. In these lines, the present study was carried out. The study is based on the data collected from employees in a knit wear manufacturing unit, in Tirupur, the Arem Fashions.

The objectives of the study are to examine the Quality of Work life among workers in the study unit and to provide for policy related to QWL of the study organization.

I. Review of Literature

Walton (1973) has stated that the major conceptual areas have to be identified viz., adequate and fair compensation, safe and healthy working conditions, development of human competencies, growth and security, social integration for understanding Quality of Work Life. According to F.W.Taylor (1979), the essential components of QWL are: physical working conditions, lighting and monetary incentives. He suggested that QWL concepts may vary according to the organization and employee group. Bharadwaj (1982) argued the adoption of QWL principles to the Indian situation. He states that QWL movement, offers India a value frame and a social technology of organizational change, leading to a task effectiveness of micro entities through utilization and unfolding of human potential. Mirvis and Lawler (1984) suggested that QWL components are satisfaction with wages, hours and working conditions, safe work environment, equal employment opportunities for advancement. Relationship between productivity and QWL was identified by Harrison(1985). He states that the various physical and psychological working conditions, pride in organization, job earned community respect, reasonable working hours etc. were found to be more positively correlated with job

★ **Assistant Professor, Department of Economics, Gandhigram Rural Institute, Deemed University, Gandhigram, Dindugul, (Tamil Nadu).**

★★ **Research Scholar, Department of Economics, Gandhigram Rural Institute, Deemed University, Gandhigram, Dindugul, (Tamil Nadu).**

satisfaction. Tambe (2000) writes about the Indian working women that they are in need of minimum expectations at the work place, basic safety, sanitation facilities, equal pay, just and fair rating, proper promotion policy, equal and fair treatment by colleagues and superiors. These dimensions can make the QWL of Indian women more satisfactory. Patra (2005) observed the 'employee relationship management is a cutting edge, complex and crucial business process which enable and energizes employees and gives them an effective drive, with additional motivation to do their job better.

From the above review, it is viewed that QWL mainly focuses on relationship between working conditions and job satisfaction, new forms of work organization, organizational arrangement and other aspects of humanization of work, work environment, job security and decision making.

II. Research Design & Methods

The present study is based on primary data collected on selected aspects of "Quality of Work Life of Employees" from the employees of the garment enterprise selected for study. The study is analytical in nature and its design is based on case study method. The unit selected for the study is "Arem Fashions", Tirupur which is manufacturing knit wear. This unit was purposely selected for the study because it has been successfully running since 1992, in terms of producing and exporting quality garments. The unit has 250 employees of both gender (172 male and 78 female). The employees are working in seven departments, viz., Sewing, Power Table, Cutting, Checking, Ironing, Packing and Office. Out of 250 employees, who are working in the sample organization, 100 employees are chosen based on proportionate stratified sampling method, using lottery method. The stratas refer to various departments.

The primary data were collected from the sample respondents administering an interview schedule. The interview schedule was pre-tested and appropriate corrections and modifications were made in the schedule so as to improve appropriateness and clarity. The researcher administered interview schedules among the sample respondents and collected relevant data so as to fulfill the objectives of the study. Besides, the researcher held several round of discussions with the Managing Director and key personnel of the organization and obtained information relevant to the study. The study makes use of simple statistical tools such as percentages and tabular analysis. The opinion of the respondents are presented in five point scale to examine the status of Quality of Work Life in the study organization. Field work was conducted during 2010. Thus the data collected for the present study represent the conditions prevailed during the period.

III. Results & Discussion

The Quality of Work Life is analyzed under six broader dimensions viz., Compensation, Safe and Healthy Working Condition, Human Capacity and Career Growth, Social Integration in Work Force, Constitutionalisation in Work Organization and Work and Personal Life.

Background of the Respondents

In order to understand the background of the sample respondents the details such as age, gender and department are given in Table 1. The respondents are drawn from seven departments. They are Sewing, Cutting, Power Table, Checking, Ironing, Packing and Office. Among all the departments, the respondents from cutting department forms the majority (23%) followed by sewing department (18%) and packing department (16%). Respondents from checking department constitute 14% and power table 13%. Respondents from ironing department and office account for 9% and 7% respectively. It may be noted from the table that a great majority of the respondents (86%) falls in the age between 20 and 40 years. The percentage of respondents under the age class of 41 – 50 is 13 and only one respondent is in the age class of above 50. Genderwise, most respondents are male (69%) and female are less than one third (31%).

From these data, it may be inferred that the garment unit under study engages employees belonging to very much productive age group only (i.e.) mostly in the age between 20 and 40 years. Male workers are more (69%) as compared to female. It can be said that the work involves more physical work and energy and so that the older people are not engaged in the organization. Similarly more men are engaged as compared to female.

Quality of Worklife in Arem Fashions

The data collected from the sample respondents on their opinion on different dimensions of Quality of Work Life are presented in Table 2. Based on the data, discussion is made on six important dimensions of QWL viz., Compensation, Safe and Healthy Working Condition, Human Capacity and Career Growth, Social Integration in Work Force, Constitutionalisation in Work Organization and Work and Personal Life.

Compensation

Under Compensation opinion on pay, facility, appreciation, reward and recognition was received from respondents. The majority of the respondents (94%) are satisfied with the pay given by the organization. All the respondents are satisfied with the facilities provided by the organization such as water, sanitation, canteen, transport etc. Most (94%) of the respondents are satisfied with the appreciation extended by the authorities. A majority of the respondents (68%) agree that there is appropriate reward and recognition in their organization against their work. With regard to compensation dimension of QWL, the organization is doing well.

Safe and Healthy Working Conditions

Under these dimensions, opinion on working hours, health and safety measures, safe equipments and working conditions was collected from the respondents. The great majority (89%) of the respondents agree upon their working hours being convenient. Similarly most of the respondents (85%) agree that organization provides adequate health and safety measures for their employees. A considerable proportion of the respondents (55%) agree that the machineries and equipments are safe to handle. 67% of the respondents are satisfied with the working conditions. These data suggests that equipment, safety and working conditions need improvement.

Opportunities for Developing Human Capacities and Career Growth

Regarding succession planning, a considerable proportionate of the respondents (57%) agree, the rest are neutral or disagree. Regarding training most respondents either agree or strongly agree. A majority of the respondents (92%) opined that they work on their own and not as a part of the team. There is no team based projects to the employees. A majority (88%) of the respondents disagree that there is team participation in the organization. It may be because of no room for team participation in the organization, since the nature of work is time-based. A majority of the respondents (76%) disagree that they are involved in all levels of decision-making. It could be inferred that barring employees in the office, the employees of other sections are not involved in decision-making. Majority (79%) of the respondents report that they are not consulted when new technology is introduced in the organization. There appears to be no opportunity for most of the employees to suggest any innovation\ideas\process. In certain aspects of opportunities for developing human capacities and career growth, the organization is trailing and need improvement.

Social Integration in Workforce

Under this four variables are considered. They are relationship, informal integration between employees and management, service conditions and positive productive working environment. With regard to informal integration between employees and management and positive productive working environment almost all respondents agree. In case of relationship and service conditions most of the respondents have taken neutral stand. The organization need to take steps to strengthen the relationship and service conditions.

Constitutionalization in the Work Organization

Majority of the respondents (71%) opined that there is job security in their organization. Most of the respondents (81%) have expressed that they are satisfied with the job. Yet some respondents have taken neutral stand which need to be taken into account. However, it could be stated that, as far as constitutionalization in the work organization, the organization is doing better.

Work and Personal Life

Majority (80%) of the respondents opined that they are able to balance work and personal life reasonably well. This shows that the work life of most employees does not appear to be an obstacle to lead their personal life smoothly.

Recommendations

- ♦ The organization need to adopt succession planning for each individual.
- ♦ Appropriate training should be provided to improve the capacity of the workers.
- ♦ The organization should create a conducive environment for the employees to participate in various decision making in the organization. The employees need to be consulted before introducing any technology or innovation.
- ♦ The management should design team based projects. The workers need to be oriented and encouraged on team work in this regard.
- ♦ The organization may organize retreats, counseling sessions, sharing session etc., so that the relationship among superiors and peers may be promoted.
- ♦ The organization can formulate a policy that all the staff including Managing Director must take part in any important family ceremonies and functions of an employee.

- ♦ The management may think of enhancing or revising provisions such as special rewards, promotions, incentives adequately to ensure good service condition.

IV. Conclusion

The present study on Quality of Work Life reveals that the employees of the organization under study, Arem Fashions, Tirupur, are satisfied with certain aspects of QWL. They include convenient working hours, health and safety measures, facilities provided, productive work environment, pay, recognition, job security, good treatment and balancing work life and personal life. Yet the study has identified certain weak areas with regard to Quality of Work Life in the study organization. The major weaknesses lie in succession planning, training, relationship with superiors and peers, team work and working conditions. In order to overcome these weaknesses this paper has recommended some suitable and feasible measures. Actions on the lines suggested would certainly help enhance the Quality of Work Life of employees and this will help achieving the vision of the organization under study.

References

Walton, R.(1973), Quality of Work Life Indicators – Prospects and Problems - A Portigal Measuring the Quality of Working Life, pp. 57-70, Ottawa

Taylor, F.W. (1979), The Quality of Working Life in Western and Eastern Europe. ABP

Bharadwaj, S.B.L. (1982), Quality of Working Life Perspectives, Dreams and Realities, National Symposium on Quality of Working Life, Mimeographed, Hyderabad

Mirvis, P.H. and Lawler, E.E. (1984), Accounting for the Quality of Work Life. Journal of Occupational Behaviour, pp.197-212

Harrison, T.M. (1985), “Communication and Participative Decision Making: An Exploratory Study”, Personnel Psychology, vol(1), pp.97-116

Tambe (2000), Quality of Work Life of Indian Women, pp.89-110

Indumathy R. and Kamalraj.S, (2012), “A Study on Quality of Work life Among Workers with Special Reference To Textile Industry In Tirupur District – A Textile Hub”, International Journal of Multidisciplinary Research, Vol: 2, No. 4, pp. 265-281

Amulya Khurana and Amulya Khurana, (1999), Relationship between size of the organization and Quality of Work Life in Indian Manager, Paradigm, 3(1) Jan-June

Table 1: Details of Sample Respondents

S.No	Demographic Factors	Department							No. of Respondents
		Sewing	Cutting	Power Table	Checking	Ironing	Packing	Office	
1	Age								
	20 – 30 years	10	12	10	5	2	2	4	45
	31 – 40 years	8	8	3	8	3	8	3	41
	41 – 50 years	-	3	-	1	4	5	-	13
	Above 50	-	-	-	-	-	1	-	1
	Total	18	23	13	14	9	16	7	100
2	Gender								
	Male	12	12	9	10	9	11	6	69
	Female	6	11	4	4	0	5	1	31
	Total	18	23	13	14	9	16	7	100

Table 2: Dimensions of Quality of Work Life –Opinion of Respondents

S.No.	Study factors	Number of Respondents					Total
		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
1.	COMPENSATION						
	Pay	-	-	6	94	-	100
	Facilities	-	-	-	100	-	100
	Appreciation	-	-	6	94	-	100
	Reward and Recognition	-	1	30	68	1	100
2.	SAFE AND HEALTHY WORKING CONDITION						
	Working Hours	-	-	8	89	3	100
	Health and Safety measures	-	-	11	85	4	100
	Safe Equipments	-	-	43	55	2	100
	Working Conditions	-	-	28	67	5	100
3.	HUMAN CAPACITY & CAREERGROWTH						
	Succession Planning	-	6	37	57	-	100
	Proper Assistance	-	1	41	56	2	100
	Training	1	8	3	42	46	100
	Job Execution	-	-	-	92	8	100
	Team based projects	64	4	10	22	-	100
	Team Participation	34	54	7	5	-	100
	Decision making	49	27	18	4	1	100
	New Technology	23	56	13	7	1	
	Innovation	52	8	36	-	4	100
4.	SOCIAL INTEGRATION IN WORK FORCE						
	Relationship	-	1	80	19	-	100
	Informal integration between employees and management	-	-	1	52	47	100
	Service Conditions	-	1	84	15	-	100
	Positive productive working environment	-	-	-	100	-	100
5.	CONSTITUTIONALISATION IN WORK ORGANISATION						
	Job Security	-	-	29	71	-	100
	Job Satisfaction	-	-	19	71	10	100
6.	WORK AND PERSONAL LIFE						
	Balancing Work & Personal Life	-	-	20	-	80	100

DOI No. 10.5958/0973-9343.2014.01245.9

MERGERS AND ACQUISITIONS IN THE BANKING SECTOR IN INDIA

Preeti Singh★

The commercial banking sector is an integral part of the financial system and it has played a major role in mobilizing the savings and investments of individuals in India. They are governed by the Banking Regulation Actof 1949. The Reserve Bank of India is at the apex of the banking system and is responsible for bringing about stability, discipline and transparency in the banking procedures. The Indian banking system has four important phases of development. The period from 1950 to 1968 is identified as the foundation phase. Expansion of thebanking system started in 1969 and from 1982 to 1990 modernization took place through computerization of records and systems. Since 1991, after liberalization the phase consists of consolidation, new customer services, training of human resources, credit management and active participation in the global world. One of the important areas has been mergers and acquisitions. The motives behind mergers are growth, synergy, managerial efficiency, strategic position, tax shields and protection of depositors. The major drivers are increase in retail credit demand, diversification of interest rate spreads, reducing NPA's and regulatory and policy changes. Competition, product innovation and branding, focus on risk management and emphasise on technology.

I. Review of Literature

A brief review of literature has been made to see the various aspects that have been worked upon and analysed by previous researches to find out the gaps and the contribution that the present paper can make on the lacunae.

Kaur&Kaur(2010)have discussed the cost efficiency of Indian commercial banks by usinga non-parametric Data Envelopment Analysis Technique. The cost efficiencymeasuresand the impact of mergerswere examined for separate and common frontiersin the post liberalization period. The analysis of this paper stated that mergers have been successful to some extent.It was also of the opinion that strong banks should not be merged with those of distressed banks as this can have an adverse effect on the quality of the assets.

Jayadev&Sensama,2007,are in favour of bank mergers as large banks are able to create the environment of Basel 11 relation to IT platform, human resource management and financial inclusion. They have analyzed some important issues of consolidation in Indian banking emphasizing the views of the important stakeholders like shareholders and managers. They do not favour forced mergers and prefer integration of synergies.

Goyal&Joshi, 2011, look into the motives of banks for mergers and acquisitions making a special reference to Indian banks. They have analysed mergers in the case of 17 banks post liberalization phase in India on the basis of number of branches showing the geographical penetration of the banks. Their paper throws light on benefits of mergers and some aspects of human resource management after merger.

Bhan,2009, studied the short term changes in the returns of banks. He has worked on the motives and benefits of mergers after the merger has taken place through economic value added method for the period 1999-2006. According to his study the banks have benefitted after the merger has taken place.

Devarajappa, 2012, made a study on mergers in Indian Banks by taking a case study of HDFC Bank Ltd and Centurian Bank of Punjab. He has made a study of pre and post merger benefits by applying the T test to measure financial parameters, Gross Profit, profit margin, return on capital employed and debt and equity ratio margin, net profit margin, operating profit margin, return on capital employed, return on equity, and debt equity ratio. He concluded on the basis of the test that mergers definitely benefitted the banks.Ravichandran, Nor &Said,2010, researched on market based mergers in Indian Banking Institutions to find out if there was efficiency in performance. According to them, there was a negative impact on profitability and returns of banks post-merger of the banks. They used the CRAMEL(Capital Adequacy, Resources Raising Ability, Asset Quality, Management Quality, Earnings Quality, Liquidity) type of variables to study the effects of mergers.

The present study is an attempt to fill in the gap by considering the growth of the banking sector in India in

★ **Professor, Jagannath International Management School (JIMS), Kalkaji, New Delhi**

different phases to find out the need for mergers and acquisitions and the styles of mergers. It has also discussed the effects of post merger through changes in identity and the new image of the merged banks in the global perspective.

II. Research Design & Methods

This study on bank mergers and acquisitions has acquired data from secondary sources. The chief sources are Report on Trend and Progress of Banking in India,Report of the Committee on Banking Sector Reforms and Annual Reports of ICICI, HDFC, Bank of Baroda and Oriental Bank of Commerce (OBC).Further, it is a study of mergers in different banks in India and focused on four banks in which a large number of mergers took place. It refers to the study of two banks in the private sector and two banks in public sector whose mergers are most dominating in the banking sector. The banks that are undertaken for this study are ICICI and HDFC banks in the private corporate sector and Bank of Baroda and Oriental Bank of Commerce in the public sector. The reason for a study of these banks is that they have reorganized themselves and have a national and global presence post mergers.

III. Results & Analysis

The growth and development of the banking industry provides a brief history of the banking system in India. The commercial banks are classified as scheduled and non-scheduled, public and private, foreign and co-operative banks.Since liberalization, universal banks consisting ofvarious customer services have also been introduced. The development of these banks is explained according to the different phases of development.

The Foundation Phase (1950-1968)

The first phase of development being the foundation phase was focused on providing the banking habit to the public and creating confidence in their minds about viability of banks increase in deposits and in turn credit to industries through term lending for development as envisaged by government in its second five year plan.The Gadgil Committee and the Dahejia Committee reviewed the credit requirements, needs and gaps in credit to industry. In 1968, Social Control Order was passed by Reserve Bank of India to cover the priority sector requirements of credit.

Expansion of the Banking System (1969 - 1981)

Since, credit requirements for the priority sector was high and banks were unable to give loan to them because they did not have sound collateral to support their applications for funds government nationalized 14 commercial banks in 1969and subsequently all large private banks in 1980. The objective was to mobilize the savings of the people and benefit the rural and semi urban areas by providing credit through quantitative loan targets to agriculture, small and medium enterprises, self employed people and retail traders. In 1969, the Lead Bank Scheme was introduced for covering the different districts in rural areas. In 1970, the New Bill Market Scheme was introduced for improving credit practices of banks to industries for their short term requirements and for acquiring fixed assets. The nationalized banks brought about expansion of banking system by adding new services, enlarging customer base and provided loans to priority sector and to other developing industries. The Narasimham Committee in 1970 and the Tandon Committee in 1974, made several recommendations for providing credit to priority sector and small industries besides the existing practice of providing loans mainly to large industries.

Modernization (1982-1990)

During the period 1982 to 1990 Government realized the importance of modernization of banks through computerization of records and human resources development programmes. Themovement towards such changes met with great opposition by the banking employees associations. There were lot of strikes and numbers of working days were lost with groups working against the movement. Human resources were also encouraged to go for refresher and development courses. Meanwhile, Public Sector Banks coexisted with private and foreign banks but with high restrictions through strict regulations and licensing policies.

Liberalization and Deregulation

In 1991 many changes were brought about to make banks profitable and efficient with sound practices as nationalized banks had poor lending strategy and did not have proper risk management strategies.Mergers and acquisitions in Indian banking sector were initiated through the recommendations of two Narasimham committee reports instituted in 1991 and 1997. The committee recommended mergers between banks and Development Financial Institutions (DFI's) and Non Banking Financial Corporation's (NBFCs) and stated that mergers were not for bailing out weak banks.

In 1992, following the Narsimham Committee report the banking sector reforms were made for enabling and strengthening the banking system. In 1998, after Narsimham Committee II report, structural changes,

standard of disclosure, transparency in dealing, increasing efficiency and stability in banks reforms were instituted for upgrading banks to international standards.

Trends in Mergers and Acquisitions in Banking Industry: Post Liberalization

Many reforms were instituted in the banking sector post liberalization. There was deregulation of interest rates, diversification of services into retail banking, factoring, securitization and insurance. Prudential norms were introduced by Reserve Bank of India (RBI). Basel norms were introduced in 1991 and banks had to maintain capital risk weighted asset ratios (CRAR). A group on Banking Supervision to monitor capital adequacy norms was implemented and universal banks were also started.

Since financial conditions in banks continued to deteriorate the RBI decided that to perform well the banks should go in for mergers and acquisitions. It was timefor the banking sector in India to move from large number of small banks to a small number of large banks.Table I gives thenumber of bank mergers in India in the pre and post liberalization period. Table II provides a detailed list of acquirer banks and target banks in the post liberalization period with reasons and style of mergers.

Number of mergers

Table I depicts that there have been a total of 83 mergers from the pre-nationalization period of 1961 to post liberalization period and upto 2014. The significant acquisitions and mergers that were made for restructuring in the global environment was only since 1991.

There have been 24 mergers and acquisitions in the post liberalization phase since 1991.14 acquisitions have been made by Public Sector banks including State Bank of India.10 mergers and acquisitions have taken place by Private Sector Banks. The mergers show that there is no distinct pattern that a public sector bank will acquire another public sector bank. A public sector bank may either acquire private sector bank or public sector bank. Similarly, a private sector bank has the option to acquire another bank from any sector. It can even be a co-operative bank.

Style of mergers

In the private sector the three dominating banks were ICICI Bank, HDFC Bank and Global Trust Bank. While ICICI Bank and HDFC Bank have interesting trends in mergers, Global Trust Bank was acquired by Oriental Bank of Commerce in 2004. The most notable trend in banking mergers and acquisitions in the private sector is that of the ICICI Bank. It made several mergers in 2001, ICICI Bank and Bank of Madura; in 2002, ICICI Bank and ICICI Ltd.; in 2007, ICICI Bank and Sangli Bank and in 2010, ICICI Bank and Bank of Rajasthan. The mergers made by ICICI bank were all voluntary. The purpose of ICICIs mergers have been mainly for increasing the size and scope of the business and area of operation.

The HDFC Bank acquired and merged with Times Bank in 2000 voluntarily. At the same time Centurion Bank acquired Bank of Punjab in 2003 and became Centurion Bank of Punjab (CBoP). In 2005, CBoP acquired Lord Krishna Bank. HDFC Bank then acquired CBoP in 2008. Thus bringing in its fold several merged banks.

In the public sector, the acquisitions and mergers have beenthrough forced measures. The OBC bank in 1997 made two acquisitions. These were Oriental Bank of Commerce (OBC) and Punjab Co-Operative Bank Ltd., OBC and Bari Doab Bank Ltd. and in 2004, OBC acquired Global Trust Bank. The mergers are mainly restructuring of corporate organization decisions.

Bank of Baroda made three acquisitions in 1999 it took over Bareilly Corp Bank Ltd.,in 2002, Banaras State Bank Ltd and 2004, South Gujarat Local Area Bank.

While ICICI, HDFC and OBC did the maximum acquisitions of banks, yet all acquisitions have been made for a purpose. The trend in public sector banks is very noticeable that they have acquired weak banks for restructuring and modernizing. These acquisitions had to be forced by RBI. Table II depicts all the details of mergers.

Reasons for mergers

The reasons for mergers have been to expand business and to be noticed in the global forefront.Moreover, banks had to be restructured and modernized and have a good position in risk management and information technology with security systems.

ICICI Bank had a reverse merger with its development financial institution to become a universal bank. With its various mergers it became the first universal bank of India. It branched into several services like insurance, securitization, loans, and wealth management.The other banks also expanded into such customer development services to follow ICICI. The weak banks were to exit and after merger they were to improve their business.

In 2014, government has decided to merge public sector banks for consolidation to bring a geographical spread and upgrade technology in banks. The upcoming mergers are

that of United Bank with IDBI Bank and State Bank of Patiala with State Bank of India.It is also planning to merge Dena Bank with Punjab National Bank and Oriental Bank of Commerce with Bank of India. Bank of Baroda, Canara Bank and Union Bank of India are considered to be strong banks and can acquire weaker banks in India. Amongst the banks whose financial health is weak are Dena Bank, Allahabad Bank and UCO Bank who have a high rate of default in loans provided by them. IDBI is a potential bank for merger with United Bank of India to bring about better operational benefits.The IDBI Bank has a profit of Rs. 1,882crores whereas United Bank is at a loss of Rs. (-) 1,213 Crores. The IDBI has few branches in the eastern part of India whereas United Bank has extensive number of branches. The merging of these two banks will bring synergy in profits and consolidation through a larger number of banks branches.

Global perspective

The global perspective has been analysed for four banks post mergers. ICICI Bank and HDFC Bank in the Private Sector and Bank of Baroda and Oriental Bank of Commerce in the Public Sector.

(i) ICICI Bankwas the first Indian Bank to be listed onNewYorkStock Exchange through equity offering in the form of American Depository Receipts in 2000.Therefore, it has become competitive in the global scenario. In 2005, it acquired Investitsionno-Kreditny Bank (IKB) that is a Russian Bank.In 2007, ICICI got an award from Euro-money for being the best bank in Asia Pacific Region. It also got an award for Excellence in retail banking by the Asian Banker in the same year. In 2009, it received the best bank in small and medium enterprise financing (private sector) at the Dun & Bradstreet banking awards. In 2011, the Brand Trust Report ranked ICICI among the four most trusted financial institutions. As on March 31,2014, it was considered to be the largest private bank in India having total assets worth 99 billion U.S. dollars. The bank operates in 19 countries. It provides a large number of services in investment, banking, insurance, venture capital and asset management.It has subsidiaries in UK, Russia, and Canada. Its branches are spread out in Singapore, Bahrain, Hong Kong, Sri Lanka, Dubai, and United States.It has representative offices in United Arab Emirates,China, South Africa, Bangladesh, Thailand, Malaysia and Indonesia.

(ii) HDFC Bank was considered to be the strongest banker in the Asia Pacific Region, best bank for developing small and medium enterprises, best practices in information technology and security as well as governance from various associations in 2011. Thus, it has overtaken the ICICI bank and has a global presence. HDFC Bank iswell entrenched and large in size having a national standing.In 2013, it received an award from Outlook Money for being the best large bank in the country. It is listed on Bombay Stock Exchange and National Stock Exchange. It has a global dimension also. It has American Depository Receipts (ADRs) that are listed on New York Stock Exchange. Its Global Depository Receipts (GDRs) are listed on Luxembourg Stock Exchange.

(iii) Bank of Baroda has become an international bank and has a presence in 25 countries. It is a preferred bank for non resident Indians (NRIs). It makes foreign currency payments and remittances on behalf of the customers of Indian banks. It is operative in New York, London, Brussels, Dubai, Hong Kong and Singapore.It has the latest technology in the branches of these countries and has trained staff especially for handling of Nostro accounts in USD and Euros. It is currently expanding and extending its branches in UK, Kenya, Tanzania, UAE and Ghana. It has a high volume of currency resources and offers very competitive rates for discounting of bills.Apart from an international standing the bank has very sound operations within India nationally. It has played a major role in training and education. It has started a post graduate diploma as a joint venture with ManipalUniversity specifically in banking. It handpicks management trainees for employment in the bank.

(iv) Oriental Bank of Commerce is the 7th largest bank in India and it has the lowest staff cost with high productivity. It has a focus in rural development, retail and priority sector. It has reduced its nonperforming assets but its focus has been to improve its performance within the country. As an initiative towards rural banking the bank has implemented a grameen project in Uttar Pradesh and Rajasthan. The bank is also focussed on improving the living conditions of people and in this respect it has selected certain areas in the country for instituting a project called the The Comprehensive Village Development Program. It is also training people for livelihood in small scale, cottage industries and village level locally developed craft. Although it has a national recognition into a very important area of development within the country, it has not concentrated into banking areas internationally.

IV. Conclusion

The banking industry has four stages of growth and development in India.From 1950 to 1968 the banking industry was in its foundation phase. It expanded from

1969 to 1981 when nationalization of large private banks took place to create a public sector for credit lending to priority sector. From 1982 to 1990 the industry was modernized but a complete change took place in 1991. In India, the economic and financial reforms took place in 1991 after which liberalization, deregulation and globalization of the banking sector took place to bring in capital adequacy and opening up of the trade in international sphere.The banking industry had to be made strong with new customer services, training of human resources, risk management and security systems. The banks had to be restructured to have a global standing. To consolidate the banking industry restructuring was considered important through mergers and acquisitions. There have been 83 mergers and acquisitions pre and post liberalizationperiod in India.ICICI Bank and HDFC Bank were the most noticeable private sector banks that went through many voluntary mergers and expanded their business and have received many awards for best banking services.In the public sector, Bank of Baroda and Oriental Bank of Commerce acquired banks to have a strong base. The style of mergers has been through voluntary mergers by private banks and forced mergers by public sector banks. Mergers have been for increasing the size and scope of business. Trends show that there is no distinct trend in sector acquisitions. Public sector bank can acquire private sector bank and similarly private sector banks have the option of either acquiring a bank from the public or private sector. In the international scenario, ICICI Bank and HDFC Bank have forged ahead. Bank of Baroda has also got an international standing. OBC however has focused on internal expansion and rural areas and priority sector lending after restructure.

References

PardeepKaur&GianKaur,(2010) Impact of Mergers on the Cost Efficiency of Indian Commercial Banks, Eurasian Journal of Business and Economics, 3 (5),pages 27-50.

AkhilBhan (2009), Mergers in Indian Banking Sector Benefits and Motives (September 3). Available at SSRN: http://ssrn.com/abstract=1467813

F. Sufian, and M. Shah Habibullah, (2009), "Do Mergers and Acquisitions lead to a Higher Technical and Scale Efficiency? Evidence from Malaysia" African Journal of Business Management.3 (8), pp: 340-349.

M Jayadev&R Sensarma(2007), Mergers in Indian Banking: An Analysis, South Asian Journal of Management , Vol 14 , no. 4 , pp. 20-49 .

J.C. Verma (2002), 'Corporate Mergers Amalgamations and Takeovers', Bharat Law House, 4th edn.,p59.

JFHouston, CM James and M.D.Ryngaert (2001),Where do Merger Gains Come from? Bank Mergers from the perspective of insiders and outsiders, Journal of Financial Economics, 60, 285-293.

AN Berger, RS Demetz andPE Strahan (1999), The Consolidation of the Financial Services Industry: Causes, Consequences and Implications for the Future, Journal of Banking and Finance, 23:pages 135-194.

Rhoades, A. Stephen (1998), "The Efficiency Effects of Bank Mergers: An Overview of Case Studies of Nine Mergers." Journal of Banking and Finance, 22: pages273-291.

G. Chatterjee (1997), "Scale Economies in Banking – Indian Experience in Deregulated Era", Reserve Bank of India Occasional Papers, 18(1):Pages 37-59.

B Baradwaj, DFraser andE. Furtado (1990), Hostile Bank Takeover Offers: Analysis and Implications, Journal of Banking and Finance, 14(6): pages1229-1242.

W. Neely (1987), Banking Acquisitions: Acquirer and Target Shareholder Returns, Financial Management, pages16:66-73

KakoliSaha(1986),Computerization in Banks:Implications for Organizational Development, Vikalpa Volume 11 No3 July-Sept, IPages 231-238.

Preeti Singh (1981), Bank Finance in India Indian Banking Today and Tomorrow, New Delhi, September.

M.Y.Khan and Preeti Singh (1979) Commercial Banks and Industrial Finance Term lending and Underwriting, Prajnan, Jan-Mar, National institute of Bank Management, Bombay, ISSN 0970-8448, ZDB-ID 1905818. - Vol. 8.1979, 1, p. 43-56.

K.Ravichandran, Fauzias Mat-Nor, RasidahMohd-Said (2010), Market Based Mergers in Indian Banking Institutions, International Research Journal of Finance and Economics, ISSN 1450-2887 Issue 37, p30-39.

DOI No. 10.5958/0973-9343.2014.01246.0

SAMPLING TO IDENTIFY KEY FACTORS AFFECTING PERFORMANCE OF HANDMADE CARPET INDUSTRIAL UNITS

Goswami Propa★ Banwet D.K.★★ Goswami K.K.★★★

The industrial growth is very important for any country, In India handmade carpet industry is one very special sector considering the socio-economic potential, labour intensiveness, and rural presence. For realizing the potential, performance need to be visible through fixing target, measuring achievement and instantly as well as constantly mitigating the gap if any. Deming's cycle of P-D-C-A has to be in place in true monitoring perspective. The exercise ideally to be dynamic in nature so that instant steps are taken avoiding huge interference loss. However traditional way of performance monitoring in financial term (profit or loss or break even % or internal rate of return or return on investment etc.) periodically (half yearly or annually) generating audited and unaudited accounting statements. The extended scope has been dynamic way business performance evaluation fixing business performance target, measurement of achievement as performance index using proper success indicators, unit, weightage and working out raw and weighed score or performance index.This novel business performance evaluation technique fixes target following 360^0 way approach including key factors in all angles – technological, commercial, financial and SECH (social, ethical, cultural and health) issues too covered by stakeholders in 360^0 way. The overall objective however has been planning and monitoring for sustainability of any unit/ entity and those dealing in trade.

Selection of survey method

Literature survey reveals that the type of survey to be used is a crucial and critical decision for any research scholar.

Enumeration of population:

Statistics – any finite or infinite collection of items are under consideration. Complete listing of the units to be sample. In the present case of present research, it was 'finite' state of population as;

1.1.1. Identification of stake holders:

All stakeholders in 360^0 way identified include manufacturers / exporters, buyers / importers, employees / artisans and others / rest.

1.1.2. Utilization of platform

The platforms like Indian Carpet Expo (ICE) held at Varanasi and Delhi were ideal to identify all the stakeholders and contact them personally. Thus, 'finite' population could be addressed.

1.1.3. Literacy of the population

Therefore, the research scholar (present case) ensured that

i. Respondents can read questionnaire
ii. Respondents can read & write both
iii. Respondents can not only read & write but understand too

1.1.4. Language

Considering we are a multilingual society especially and Indian constitution recognizesa large number of languages, the research scholar (present case) ensured that the research scholar was aware of the respondent's literacy and important connotations in questionnaire that were culturally specific.

1.1.5. Cooperation from the population

In the present survey, situation is elaborated as;

i. Target group of respondents are engaged for the cause of growth for trade, G.D.P, career and brand image.

ii. The 'questionnaires' a format in four groups to respond to covers identification of key factors for which (a) Continuation desired, (b) Improvement required, (c) Experimentation sought and (d) Challenge for sustainability expected

Simple and hassle free hence availability of cooperation from population was ensured.

★ **Research Scholar, U.P. Technical University, Lucknow, U.P.**
★★ **Research Guide, Emeritus Professor, DMS IIT, New Delhi**
★★★ **Research Facilitator, Professor & Director, IICT, Bhadohi, U.P.**

1.1.6. Geographical restriction

In the context of abovementioned identified limitations, it was ensured in present case as under;

i. All stakeholders could be met in a common platform like Indian Carpet Expo (ICE)

ii. Most of the stakeholders could be met further in successive ICE

iii. Except stakeholders like buyer/ importer mostly located in Bhadohi – Mirzapur – Varanasi carpet belt is in such geographical range which is within well accessibility of the research scholar

iv. Representatives of buyer / importers are also available in the said belt

v. E-mail / Telephonic accessibility was available without any problem with all stakeholders

Thus geographical range was not a restriction for the survey in present case.

2.1. Sampling

The sample is the actual group the research scholar to contact in decided way.

2.1.1. Data availability

The fair directory was collected which contained detailed information of stakeholders. Besides for personal / direct contact stall numbers were available which was appropriately utilized to initiate survey.

2.1.2. Availability of respondents

Target population has been participants ofIndian Carpet Expo (ICE) as mentioned earlier;hence abovementioned availability bottlenecks could be resolved. Moreover, today "mobile technology" facilitates to overcome such bottlenecks to a large extent.

2.1.3. Identification of respondents

In the present case, stakeholders are small organization and or individuals or representing bodies hence no bottleneck in this regard was faced.

2.1.4. Sampling of entire population & response rate

Yes, this constraint was faced for which appropriate research methodology and measure were adopted to ensure reliability. During Indian Carpet Expo (ICE) maximum direct contact basis feedback was taken. In certain cases their version/ statement recorded in the format in appropriate manner instead of waiting for their formal response. Moreover, authentic and authorized officials representing stakeholder bodies also participated to make response rate to deemed to be 100%.

2.2. Question issues

The nature of research scholar's need of reply from respondents is likely to determine the survey type/ method. In the present research work, sufficient pre-survey experimentation was made in finalizing the questionnaire involving some such stakeholders who facilitated right way anticipation to develop reasonably close ended questions.The present survey was not complex but not too simple. Sufficient effort was given in different forum through presentation to a group of stakeholders to acquaint with the questionnaire. Hence, whatever complexity was there could be sorted out.The present survey follows sufficient and detailed deliberation through publication and conferences which enabled most respondents to understand questions. A helpline was also provided. The issue was thus tackled.The present survey questionnaire was designed to avoid a lengthy response sheet hence no bottlenecks.

2.3. Content issues

In my survey, respondents need to consult record for business performance target fixation and subsequently for providing the achievement data. The present research work is survey but in-situ whether instant or periodic need consultation of record and not by interview alone. This is a pure academic / research work hence no shortcut method by respondent was encouraged in view of expecting accurate answer.

2.4. Bias issues

The present research survey is basically health monitoring by using the developed tool. Respondents' negative response as mentioned will negate their performance only. It has been campaigned accordingly to avoid such negative attitude situation.In the present case, the research scholar herself the interviewer, hence such bias is not possible in the interest of research work leading to "degree" not otherwise.Yes, there is a possibility in case where there is a reason to do so. Responding to the present research does not involve any such reason which can prompt fasle respondents to hijack the email id. Moreover, verification through mobile phone/ message can be done in doubtful case(s)

2.5. Administrative issues

The issues identified definitely are important and crucial.

The present research work is for doctoral purpose for the academic achievement of the research scholar and reasonable institutional as well as family supports both are available. Hence anticipated bottlenecks are resolved.

2.6. General

It was evident from the review that there are lots of issues which should be considered by any research scholar before selecting the method for his/her study. There is no clear easy shortcut and only single method. Advantages, disadvantages, judgments are involved. Therefore, one should try to select method(s) which is (are) appropriate and can prevent failure. In the present research work no single method was followed which include "verbatim" approach of converting the feedback-statements of respondents in desired manner. In addition all stakeholders have been invited and attracted for participation through the one & only international journal for carpet and rugs and its Editor.[4] Thus anticipated failure could be prevented.

3. Choosing the sample

The researcher to take care of following points while survey is undertaken;

3.1. To understand basic concepts of sampling

However, all care was taken to maximize the sample error by taking certain precautions as under;

- Sample chosen in unbiased way
- Sample for the present estimate has been as precise as possible
- Avoided such sample(s) which might cause 'unbiased' estimates

3.2. To calculate the required sample size for estimates

3.3. To determine the number of clusters to be used

3.4. To choose a right sampling scheme

In the present research work, feedback sought from four groups (1-4) of stakeholders. The feedbacks sought in pre identified groups (A-D) and format providing necessary guideline.

The population has been identified from fair-directory and authentic communication. Respondents representing the whole population were available in the common platform and contacted. The details are given below;

3.5. Sample size: Accuracy, error, validation

This is a survey where many key factors are known and common. Publications are also available depicting information on such key factors. Considering the fact mentioned, it can be safely guessed that even 10 out of 100 stakeholders in each group can give unbiased and useful information. Moreover, bodies like Associations, Institutes, Departments, NGOs etc. type of respondents could make the estimation more or less error free considering default responses are covered by them.

Further, the study has been focused for validations by certain prime stakeholders pertain to group A, B, C & D. In validation bank of key factors obtained out of survey formed the base with the liberty to add or delete, use appropriateweight-age, target. Once such way business performance target could be fixed, periodic evaluation (instant or in decided periodicity) to take place. The performance index (PI) obtained in this manner of BPET will be compared with corresponding financial performance to be concluded or worked out. The correlation coefficient obtained on experimental basis has been encouraging.

Conclusion

The paper provides a true check list for selecting the survey method and choosing the sample size. Compliance to check list by the research scholar in the present case is an exhibition of exemplary approach. The validation proves that survey method, sample size, sample error, etc. are quite acceptable and industry can benefit using the system model developed. Thus, the foundation for predictive and preventive performance maintenance method for any organization in general and handmade carpet industry in particular could be established through valid stated judgments to balance advantages and disadvantages.

References

William M.K. Trochim, (2006), Research Methods Knowledge Base (last revised 10/20/2006, copyright@2006)

Goswami P., Banwet D.K, Goswami K.K, (2013), Process of identification of key factors for Performance Measurement: Select study of Hand Made Carpet Industry, [being communicated to reputed journal]

Illustrated Oxford Dictionary, 2003, Reprinted 2008: Dorling Kindersley (DK) Limited and Oxford University Press, PP: 636

"Carpet - e – world", 2013-14

Table 1: Group of Stakeholders

Sr. No.	Feature of representative stakeholders
1	Exporter (includes; manufacturer / supplier)
2	Importer (includes; Buyer / Consumer)
3	Employees (includes; Artisans / Weavers)
4	Others (includes; service providers, vendors etc.)

Table 2: Group of Feedback

Groups	Feature of Key factors	Remarks
A	Exists and require Continuation	i. To become target fixation of Exporter
B	Exists but require improvement	ii. To follow target fixation format already exist
C	New and require experimentation	iii. To follow evaluation or validation as per format / design already exist
D	Unforeseen, anticipated and challenges	

Table 3: Cluster of Stakeholders

Table: 3.1.: Group 1: Exporter& Group 3: Employees

S. No.	Region (R) or Cluster Name	*Group 1* **Exporter** (includes; manufacturer / supplier)			*Group 3* **Employees** (includes; Artisans/ Weavers/ Designers)		
		Population	**Contacted**	**Responded***	**Population**	**Contacted**	**Responded***
1	R1 Bhd (Bhadohi)	181	181	100	181	181	85
2	R2 Mzp (Mirzapur)	25	25	18	25	25	10
3	R3 Vns (Varanasi)	15	15	8	15	15	5
4	R4 Ald (Allahabad)	1	1	1	1	1	1
5	R5 Lko (Lucknow)	2	2	2	2	2	1
6	R6 Knp (Kanpur)	2	2	2	2	2	2
7	R7 Noida (Noida)	3	3	3	3	3	2
8	R8 Grg (Gurgaon)	1	1	1	1	1	1
9	R9 Agra (Agra)	6	6	4	6	6	2
10	R10 Jpr (Jaipur)	28	28	20	28	28	15
11	R11 Pnp (Panipat)	13	13	5	13	13	3
12	R12 Bkr (Bikaner)	5	5	4	5	5	2
13	R13 Ghz (Ghaziabad)	1	1	1	1	1	1
14	R14 N.D (New Delhi)	17	17	10	17	17	8
15	R15 Gwl (Gwalior)	1	1	1	1	1	1
16	R16 Mum (Mumbai)	3	3	3	3	3	2
17	R17 Kol (Kolkata)	1	1	1	1	1	1
18	R18 Srg (Srinagar)	1	1	1	1	1	0
19	**R19 Nep (Nepal)**	1	1	1	1	1	0
	Total	307	307	**186**	307	307	**142**

***:** Response rate deemed to be 100%. Since concerned authentic and or authorized association(s) or representative for the stakeholder also participated to take care of gap.

Table: 3.2. Group 2: Importer (includes; Buyer / Consumer)

S. No.	Country	Population	Contacted	Responded*
1	Australia	5	5	2
2	Argentina	1	1	0
3	Austria	1	1	0
4	Brazil	15	15	2
5	Belgium	13	13	3
6	Bulgaria	1	1	0
7	China	18	18	5
8	Canada	17	17	4
9	Chile	1	1	0
10	Denmark	1	1	1
11	France	7	7	1
12	Finland	1	1	1
13	Germany	46	46	10
14	Italy	5	5	2
15	Iran	2	2	1
16	Japan	21	21	5
17	Kuwait	1	1	1
18	Kenya	1	1	1
19	Lebanon	3	3	1
20	Luxembourg	2	2	1
21	Malaysia	1	1	1
22	Mexico	7	7	1
23	Norway	2	2	0
24	New Zealand	1	1	1
25	Netherland	3	3	1
26	Portugal	3	3	1
27	Russia	13	13	4
28	S. Africa	7	7	1
29	Sweden	6	6	2
30	Spain	6	6	1
31	Sri Lanka	3	3	0
32	Switzerland	3	3	1
33	Tunisia	2	2	1
34	Turkey	22	22	2
35	U.S.A	42	42	2
36	Ukraine	7	7	1
37	U.K	9	9	4
38	U.A.E	5	5	1
	Total No. of Countries	304	304	**66**

•Response rate deemed to be 100%. Since concerned authentic and or authorized association(s) or
•representative for the stakeholder also participated to take care of gap.

Table: 3.3. Group 4

S. No.	Others group	Population	Contacted	Responded*
1	Service providers, vendors, Institutes etc	10	10	**8**

***:** Response rate deemed to be 100%. Since concerned authentic and or authorized association(s) or representative for the stakeholder also participated to take care of gap.