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*The Measurement of Volatility of Indian Stock Market
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From the Chief editor's Desk

This second issue of "BIITM BUSINESS REVIEW" primarily intends to empower the minds. BIITM supports a unique system of education structure on values and combines the tenets of academic excellence with corporate professionalism. The primary objective of this journal is to provide intellectual inputs to potential business leaders, entrepreneurs, academicians, researchers and professionals who contribute to the development of the society and nation at large. This journal is published by an institute of higher learning whose primary objective is to educate students. It is important to remember that education includes literacy, but it is not confined to literacy alone. It comprehends much more. It is the acquiring of knowledge or learning, together with the equipment, which provides the skill and inclination for making profitable use of that knowledge. Since acquiring of knowledge and improvement of the skill for its application are parts of the dynamic process, education is a life long exercise. In the border-less world of the twenty first century, knowledge is not fettered by geographical limitations. Impact of globalization of education includes issues like privatization, reduction of financial support to education from government, governance of institutions of higher learning, autonomy in academic and research activities, financial autonomy and quality improvement.

During the last two decades, there has been persistent efforts to integrate the Indian economy with the global economy. The same is planned for education sector too. It is necessary to analyse the major changes that are taking place in the academic environment that affect the higher education sector of a country. Further, it is also necessary to analyse how these environmental changes are creating both opportunities and challenges for the centres of higher learning. We have to provide our students full-proof business plans which will inculcate in them a capacity to effectively manage human, material and financial resources of the organization. We have to make our curriculum both creative and innovative. What is required is a meeting of the minds from academia, industry, and government. This journal contains articles of different subjects covering the opinion expressed above. The authenticity and the value of the articles may at once be gleaned if one is aware that the authors are eminent academicians of different universities and reputed professional institutes. The articles are serialized and presented in this journal according to the orders in which they were received.

The first paper “A prototype model on determinants of industrialization in Odisha” by P.C. Tripathy is an empirical estimation of the status and determinants of industrialization in the state of Odisha. The research has attempted to determine the various determinants of industrialization in Odisha. Cause and effect relationship has been established between independents and dependent variables.

The second paper, “Customer service quality in the Indian banking sector” by Prof. G. C. Agrawal and Dr. Sikha Agrawal attempts to find out whether in the present scenario the commercial banks are providing efficient service or not, and whether they have been able to satisfy their customers. The study reveals that the most important factor contributing to their success is the service delivery of their products and the satisfaction of their customers.

The third paper entitled, “ Dimensions of growth and disparity in commercial bank credit to agriculture – Analysis of recent data” prepared by Prof. R. K. Panda reveals that not only there is wide variation in the growth of commercial banks credit to agriculture across states but also distribution of credit is skewed in favour of developed states. However, credit distribution across firm sizes does not reveal better quality.

The next paper, “Adjudication and dispute resolution in Orissa” by Ms. Priyanka Mishra and Prof. P.K. Mohanty finds that contribution of industrial adjudication to the development of industrial harmony in India has been remarkable. Adjudication, by and large succeeded in bringing out some measures of industrial peace. Industrial adjudication has endeavoured to resolve the dispute with a pragmatic approach having considerations for the socio-economic requirements of the society and also the social welfare enshrined in the directive principles of the Indian Constitution.

The fifth paper written by Ms. Archana Choudhary entitled, “ HR initiatives for sustaining turnaround – a case study of Rourkela Steel Plant” provides empirical evidences in connection with total turnaround of Rourkela Steel plant on account of pragmatic HR initiatives. The study reveals that people are the most important resource for any organization and investment in human resources will effectively meet the challenges and convert them to opportunities. The study concludes that organizations which value and prioritise people can over come all types of adverse situations.

The next paper entitled, “Effect of price perception and store image on retail purchase intent : A study on Reliance Fresh in Bhubaneswar is written by Dr. U.K. Dash reveals that Consumers have a number of enduring perceptions or images that are particularly relevant to the study of consumer behavior. It is found that the difference in income ranges has a strong bearing on purchase intention from an organized retail store like Reliance fresh.

“The seventh paper entitled,” Ensuring information security in the new era of banking an India Scenario” written by Dr. K. K. Patra and Bibhudendu Panda investigates the challenges that Indian banking sector faces in ensuring information security. The paper suggests a secure and efficient blind signature scheme based on the Elliptic curve discrete Logarithm problem. This research has also developed a model which will ensure proper security of information processing, which in turn is highly dependent on technology.

The eighth paper entitled, “IFRS – challenges and need for Indian Inc” written by Ms. Puspalata Mohapatra is an attempt to identify the challenges for Indian Inc. on the eve of convergence between IFRS and generally accepted accounting principles (GAAP). The author opines that IFRS is an universally accepted high quality accounting standard which can make international capital market efficient and functional. The author is of the opinion that Indian accounting firms and smaller companies will not benefit from the learning in the first phase of the transition. However, a globally accepted set of principles – based standards will offer more room for accounting treatments that are consistently applied.

The next paper entitled, “ The measurement of volatility of Indian Stock Market during post recession period” written by Ms. Shradhanjali Panda presents the pre and post financial crises that has its roots to late 2007. The author considers volatility as the source of risk in stock market investment. This empirical research estimates both inter-day and intra-day volatility taking high and low stock market price into consideration. The paper is prepared to measure volatility in sectors like cement, pharmaceuticals, banking, and IT.

The tenth paper namely, “Knowledge management practices in selected Indian IT Companies” written by Ms. Swati Mishra and Ms. Lopamudra Hati is a general paper which defines knowledge management as a systematic leveraging of information and

expertise. The paper makes a comparison among established IT Companies of our country like Infosys, Mahindra Satyam, and Wipro with regard to this knowledge management practices. The author has mentioned about challenges of KM in terms of change in work, job education and life style and has finally pointed out that E-learning is a much needed response to this challenge.

The eleventh paper namely, “ The emergence and evolution of E-banking” written by Ms. Alaka Samantaray has mentioned about evolution of e-banking and its emerging challenges. The author mentions that e-banking is a fast spreading service that allows customers to use computer to access accounting specific information. It is a conceptual paper that discusses the various aspects of e-banking in detail.

The last paper entitled, “Emerging trends in creative Accounting : The changing face of financial frauds” is written by three authors : Ms. Sucharita Mohanty, Ms. Amrita Pani and Mr. Mahesh Sharma. This is a descriptive paper which mainly discusses about the manipulation of accounting system to show inflated profits of a firm. The paper uses the happenings of Satyam Computers, Enron, and World com. as case studies. The authors mention about creative accounting which is the root of a number of scandals. Ordinarily, creative accounting refers to systematic misrepresentation of the values of assets and the revenues of companies or similar organizations.

Dear readers, I have provided above a brief description of the articles published in this journal. This second issue of “BIITM BUSINESS REVIEW” is now placed in your hands. The papers included in this issue are empirical, conceptual, and descriptive. They are well conceived, researched and presented. The contributors are distinguished scholars and on behalf of the editorial board, I would like to avail this opportunity to express our deep sense of gratitude to each one of them. Globalisation is inevitable. The notion of losing Indian talent, in the globalised context, pales into insignificance as the countries are no more limited to geographical territories. Today, in the borderless world, knowledge is not fettered by jurisdictional limitations. A sublime challenge greets us as we walk through the imposing portals of global future. Finally, I hope all of you find this journal both rewarding and enjoyable.

Prof. P. C. Tripathy

A PROTOTYPE MODEL ON DETERMINANTS OF INDUSTRIALISATION IN ODISHA

***Prof. P.C. Tripathy**

ABSTRACT

This article is based on the empirical research conducted by the author on industrial development of backward areas with special reference to Odisha. This research has attempted to determine the various determinants of industrialisation in Odisha. Industrialisation is defined in terms of gross output from organised factory sector, value added by manufacture, employment generated, and the number of factory units established. The important factors that determined the status and level of industrialisation in Odisha are financial assistance provided by the state level development banks, availability of electrical power for the purpose of industrialisation, availability of cheap industrial labour, and urbanisation. Stochastic models were specified with various permutation and combination of independent variables to ascertain their impact on the dependent variables. The econometric models were estimated with the help of computer runs. The study revealed that the state-level development banks have played a very significant role in the industrial development of the state of Odisha. It is interesting to note that the industrial structure of the state has undergone a massive change over time. From an agro-based industrial set-up, the structure has been thoroughly diversified to include industries like sponge iron, ferro alloys, charge chrome, chemicals, engineering, textile, iron and steel, etc. The trends in industrialisation indicated appreciable increase in the number of registered factory units, capital investment in industrial units, value of output, and value added by manufacture.

I. INTRODUCTION

If we take the whole range of natural wealth (flora, fauna, fertility, marine, and minerals) and concentrate it in one area of Indian map, we get the state of Odisha. Situated in the north-eastern section of the Indian Peninsula, Odisha extends over an area of 1, 55, 860 sq. kms. It an extensive plateau which slopes gently into the coastal plain along the bay of Bengal. But if we place it along side the main stream of national progress, we find the dismal picture of overall poverty and backwardness. Natural resources are universally deemed to be the perennial source of economic strength, but what renders the state of chronic poverty so diplorable in Odisha is that, it exists despite such wealth. Even today, Odisha is a classic example of a totally under developed economy – a severe resource constraint; that is the constraint of capital, low per capita income, mass poverty, chronic unemployment and under employment, a low level of technology and poor economic organisation. The usual vicious circle of poverty, want, low productivity perpetuated itself. Ever since its creation as a separate state in 1936, the economy of Odisha is contracted with the problems of low productivity, acute unemployment and under employment, lack of adequate financial resources for investment, low purchasing power, and shortage of critical inputs. Odisha continues to be backward despite its vast natural resources even today it is one of the most backward states of our country.

The economic backwardness of Odisha is indicated by its low per capita income. Compared to other states of our country, Odisha is lagging behind in the matter of per capita state income. An inter-stat comparison reveals that the per capita income of Odisha is very much below that of all other states of India during all the plan periods. Odisha also continues to remain below the national per capita income during the entire post-independence period. This indicates that the rate of economic growth is much faster in all-India level than in Odisha. Compared to other advanced states of India the rate of growth in Odisha is still lower. Thus, in spite of the vowed objectives of economic planning in India to reduce regional disparities, the gap in the level of economic activities instead of narrowing down has widened among the different states over time.

Despite good potential, Odisha continues to be one of the industrially backward states of India. Odisha's share in the industrial production of India is less than two percent in all the plan periods. In spite of all round efforts for industrialisation, the progress made so far is not encouraging. The State is behind the all-India average as well as of other advanced states in terms of per capita value added by manufacture and per capita gross output from industrial sector. During the pre-plan period, Odisha was virtually written off from the industrial map of India. Having no infrastructure facilities, an installed capacity of only 9.6 MW electrical powers, very inadequate transport and banking facilities, Odisha did not provide any attraction to the industrialists of India during the beginning of five year plans of India. The then industrial structure was mainly confined to rice milling, textiles, oil milling and bidi making on a cottage industry basis. Rice mills and oil mills were two main categories of traditional agro-industries in the state. With the plan efforts for industrialisation the situation gradually changed. By 1961, the industrial structure comprised of the following industries : Iron and steel, Refractories, Electricity generation, paper and paper boards, china clay, non-metallic mineral products, metal products, sugar, glass products, bakery, distillery, tanneries. This indicates that the composition of industries has undergone some change during the First and Second Five Year Plan periods. From the year 1961, there has been successful attempt to further expand the composition of industries in Odisha. Significant steps have been taken to promote resource oriented industries with a view to utilise the rich mineral, forest and marine resources of the state. Today, the industrial structure comprises of the following additional industries: wearing apparel and made-up textiles, rubber products, chemicals and petroleum, Engineering and fabrication, Aluminium, Electric and electronic appliances, hotels, transport, marine products, coir and coir products, structural wooden goods, Ferro Alloys, Ferro Silicon, sponge iron, hand machinery and parts, Industrial machinery and parts, Insulated wares and cables, ship building and repairing, motor vehicle parts, dyeing and bleaching of cotton textiles, structural stone goods, Asbestos and other cement products, soft drinks and processed food, etc. It is a fact that the state of Odisha has witnessed a favourable structure change from agro-based traditional industries to modern industries.

During the pre-plan period, industries were virtually non-existent in Odisha. But the momentum of industrial growth is very much noticeable today. The very singular encouraging fact is the attitude of the state government, which has created a favourable climate for rapid industrialisation. During the plan periods, successful attempts have been made to create necessary conditions to develop large, medium and small-scale industries. The successive five year plans have put much emphasis on the role of industries in the economic development of the state. It is now seen that there has been appreciable changes in the industrial structure, impressive growth in power generation, noticeable increase in the number of registered factory units and capital investment in industries, and overall development of entrepreneurship and industrial consciousness among the people. In recent years, Odisha has made a considerable headway in the development of resource-oriented industries. All these have earned a suitable place for Odisha in the industrial map of the world. The industrial prospects of Odisha have not only attracted the most enterprising Indian entrepreneurs but the multinational corporations like POSCO, Mittal, Vedanta and many others. Industrial development in Odisha was greatly favoured by both policy and institutional measures. The state government initiated pragmatic administrative and fiscal measures for the growth of industries. Both financial and non-financial incentives were offered to attract industries. The state-level development banks also played a very important role by providing attractive promotional measures. Industrial estates with ready-made infrastructure facilities also facilitated the growth of industries. The district industry centres in all the districts have made tremendous contribution to small and cottage industries. The structural transformation of industries indicates effective utilisation of state's vast natural resources, massive capital investment and use of up-to-date technical know-how. The trends in industrialisation have also indicated substantial rise in the number of factory units, capital investment, employment, value of input, value of output and value added by manufacturing activities. This research paper is an attempt to examine the interface between industrialisation and the policy measures and institutional measures provided for rapid industrial development of a backward state namely, Odisha. It is desired to find out the impact of different schemes of financial and

non-financial assistances on the programme of industrial development of Odisha. The main objective of this study is to examine whether the various policy and institutional measures have been conducive to rapid industrial development. The paper envisages to evaluate both, the quantitative (i.e. magnitude of operations in terms of the amount of assistance and number of industrial units assisted) as well as qualitative (various measures of non-financial assistance) role of development banks. It is intended to formulate and estimate econometric models so to ascertain the level of industrialisation and its determinants in Odisha.

This paper is relevant in many respects. First, in a developing country like India, rapid industrial development and regional balance in growth through dispersal of investment are two important objectives of economic planning. This study purports to ascertain how far these two important state policies are implemented. This study is conducted to find out the level of industrialisation and the factors responsible for it in the state of Odisha. Secondly, the problem of regional imbalance can be solved by providing more incentives to less developed areas than developed areas. It is necessary to promote industries in backward areas to achieve a reasonable degree of regional balance. This research paper is devoted to industrial development of a backward state of India. Finally, this research does bring out several important issues relevant for formulating policy measures for industrialisation of backward areas. The issues on choice of location, forward and backward linkages, regional interdependence, post-installation support facilities, promotional strategy, incentive packages and institutional measures are some of the important ones highlighted in this study. These are equally important issues to the deliberated upon for industrialisation programme elsewhere.

II. DETERMINANTS OF INDUSTRIALISATION – THE MODELS

In this section an attempt is made to formulate and test models to find out the determinants of industrialization. Industrialization depends on a number of factors. Although finance is sine-qua-non for industrialization, it is only a necessary

condition and not sufficient condition for industrial growth. As such, in this research paper an attempt is made to find out the impact of various determinants of industrialization along with finance provided by the development banks. In addition to finance or capital, industrial development is also a function of labour, infrastructure development, electricity consumption, urbanization, literacy, availability and utilization of resources, availability of developed markets, government policy measure, promotional measures, etc. There is no unique measure of industrialisation. Some of the generally accepted indicators used in this study to measure the level of industrialization are number of registered factory units, gross industrial output, value added by manufacturing, number of employees in the organized factory sector. All these factors are separately taken as the dependent variable. The independent variables or the determinants of industrialization included in this study are finance provided by the development banks, commercial bank credit, index of infrastructure development, industrial consumption of electricity, number of industrial workers per thousand population, urbanization, and literacy, etc. Secondary data pertaining to all these dependent and independent variable are collected from various sources and processed with the help of computer runs. For studies relating to Odisha, industrialization is defined in terms of several alternative measures like gross output from manufacturing sector, value added by manufacturing, number of persons employed in the organized factory sector, and productive capital investment in industry. Annual time series data of Odisha pertaining to the level of industrialization and the factors determining it were collected mostly from the Annual Survey of industries and analysed with the help of multiple regression analysis.

For this study a multivariable linear regression model is specified. Mathematically, the model may be expressed as:

$$Y = f(L, K, F_b, F_d, E, U, S)$$
$$f_i > 0 \text{ for } i = 1, 7 \text{ -----(1)}$$

Where;

Y = Value of output in manufacturing or value added by manufacture (Rs. Lakhs) or number of registered factory units.

L = Employment in organized factory sector (No. of persons)

K = Productive capital employed in manufacturing (Rs. Lakhs)

F_b = Commercial bank Credit (Rs. Lakhs)

F_d = Financial assistance disbursed by Odisha State financial corporation (Rs. Lakhs)

E = Industrial Consumption of electricity (Million Kwh)

U = Proportion of urban population to total population (%)

S = Proportion of literatures to total population (%)

f_i = Partial derivative of function "f" with respect to its I "ith" independent variable.

Industrialisation is also sometimes measured by the number of persons employed or by capital employed in manufacturing. Thus, alternative models are also specified as follows:

$$L = f(F_d, E)$$

$$f_i > 0, \text{ for } i = 1, 2 \text{ —————(1a)}$$

$$K = f(F_d, E)$$

$$f_i > 0, \text{ for } i = 1, 2 \text{ —————(1b)}$$

III. ESTIMATES FOR ODISHA

The estimates for Odisha use annual time-series data. The linear model as specified in equation – 1 above is estimated by using ordinary least square (OLS) method. In addition gross output which is denoted by (Q) and value added by manufacturing (V); Number of registered factory units(N), Productive capital in manufacturing sector(K), and employment(L) have also been tried as alternative dependent variables. The model has been estimated with various permutations and combinations of explanatory variables in a number of equations. The estimation results of best form equation -1 are provided in what follows:

$$\begin{aligned} 2.1 \quad N = & - 336.2 + 0.003K + 0.0013L + 0.0349 F_d \\ & (0.91) \quad (0.12) \quad (1.26) \quad (0.33) \\ & + 0.1071E + 143.6U \\ & (1.02) \quad (2.35) \end{aligned}$$

$$R^2 = 0.9788$$

$$DW = 2.44$$

$$\begin{aligned} 2.2 \quad Q = & -114.6 + 0.066K + 0.081L + 5.95 F_d \\ & (2.42) \quad (0.29) \quad (0.73) \quad (4.35) \\ & + 18.2E \\ & (2.82) \end{aligned}$$

$$R^2 = 0.9522$$

$$DW = 1.12$$

$$2.3 \quad V = -5761.67 + 0.088K + 0.074L + 1.69E$$

(3.56) (0.88) (1.75) (0.62)

$$R^2 = 0.8711$$

$$DW = 1.10$$

$$2.4 \quad L = 3478.76 + 109.847 F_d + 35.37E$$

(3.52) (5.92) (3.59)

$$R^2 = 0.8785$$

$$DW = 1.64$$

$$2.5 \quad K = 7053.01 + 41.8 F_d + 31.35E$$

(3.52) (4.61) (7.16)

$$R^2 = 0.9116$$

$$DW = 0.90$$

On examining the above results it is found that all the coefficients of the determinants of industrialization have their apriori signs, and many of them are statistically significant either at 1 percent or 5 percent level. The explanatory power of the estimated equations as indicated by the coefficient of determination (R^2) varied from 0.87 to 0.98. Thus, the equations have very high explanatory power. By examining equation 2.1, it is seen that the independent variable U (percentage of urban populations to total population) has turned out to be highly significant in explaining (N) or the number of industrial units in organized factory sector. Thus, it can be concluded that urbanization is an important determinant of industrialization. The other independent variables like productive

capital, workers, financial assistance provided by development banks and electricity also make positive contributions to industrialization as their signs are in conformity with theory. But their contribution is not very significant in the growth of number of registered factory units. The equation explains 98 per cent variability in the dependent variable.

For the purpose of interpretation, equation 2.2 is selected as best on the basis of economic theory and statistical inference. By examining the estimates it is seen that all the variables have positive signs. The co-efficient of determination or R^2 is high (0.9592). Thus the equation explains 96 percent variability in the dependent variable (Q), gross output from the registered factory sector. The independent variables, financial assistance disbursed by Odisha State Financial Corporation (F_o) and industrial consumption of electricity (E) have turned out to be highly significant in explaining gross output from the organized factory sector (Q). It is seen that an increase of Rupees one lakh in financial assistance disbursed by Odisha State Financial Corporation (F_o) has brought about an increase of about rupees fifty one lakhs in gross output from the organized factory sector (Q). The t-ratio is also highly significant at 1 percent level of significance. Thus, it can be safely concluded that the financial assistance disbursed by Odisha State Financial Corporation (OSFC) has made a tremendous contribution to industrial development of a backward state like Odisha. State Financial Corporations were created primarily with the objective of promoting industries in respective states. This finding indicates that in Odisha this objective has been accomplished. Another interesting finding relates to the contribution of electricity towards industrial development. This study reveals that an additional consumption of electricity by one million Kwh would increase gross output from organized factory sector (Q) by Rs 18.12 lakhs. The state has invested huge amount of money for generation of electricity as the total installed capacity of electricity was only 9.6 MW. It is interesting to point out that entrepreneurs were attracted to start factory units in the state due easy availability of electricity at concessional rates. This study also reveals that t-ratio is also significant at 5 per cent level of significance. The other two independent variables namely productive capital and labour have also made positive contribution to gross output from registered factory sector. This finding

suggests that on account of favourable climate created by various policy measures of the government and promotional measures provided by the development banks, entrepreneurs are motivated to make more investment in the industrial sector in a backward region of the country. This study also further reveals that because of the availability of cheap labour and peaceful industrial climate in Odisha, industries were attracted to come to this backward state.

In addition to gross output from the industrial sector (Q) value added by manufacture (V) is another important measure of industrialization. Value added by the manufacturing process (V) is taken as the dependent variable in equation number 2.3. The objective is to ascertain how far the various policy measures and the institutional measures have impacted the industrial sector in the form of value added by manufacturing. By examining the estimates contained in equation 2.3, it is found that all the three independent variables; productive capital investment in factory sector, industrial workers and industrial consumption of electricity have positive contribution to value added by manufacturing as the signs of the regression co-efficients are in conformity with their postulated signs. Further, it is very interesting to note that co-efficient of determination or R^2 has assumed the high value of 0.8711. As the R^2 usually provides the explanatory power of the model, this finding is very relevant. In this case the co-efficient of determination has explained 87% variability in the dependent variable. Investment of productive capital in the industrial sector has turned out to be another important factor for industrial development of a backward state like Odisha. Equation 2.3 reveals that an additional investment of rupees one lakh in the form of productive capital has raised value added by manufacturing to an amount of rupees 8,800. This finding is highly appreciated as value added by manufacturing reveals the net contribution of the industrial sector. Needless to mention that value added by manufacturing is a better measure of industrialization than the gross output. Electrical power has turned out to be another important variable that has significantly influenced value added by manufacturing. This study reveals that if industrial consumption of electricity goes up by one million kwh., it would raise value added by manufacturing by rupees 1.69 lakhs. Thus, there is a positive correlation between

industrial consumption electricity and value added by manufacturing. On the basis of this finding it can be recommended that more efforts should be made at the government level to generate additional electrical power for the purpose of industrial development. In a state like Odisha, availability of cheap labour is traditionally considered to be an important factor of industrialization. This study reveals that an additional employment of one more worker would raise value added by manufacturing by Rupees 7,400. Such a finding suggests that more effective steps should be taken by the state government to create employment opportunity for people in the industrial sector. Such a pragmatic policy will no doubt solve the unemployment problem of the state which is now very acute. More employment will solve the problem of migration of bonded workers to other states.

Employment in organized factor sector is another important indicator of industrial development. This study also intended to ascertain the success of industrialisation programme in the form providing job to the people. In equation 2.4, employment in organised factory sector (L) is taken as the dependent variable. In other equations discussed above, we have analysed the importance of L as a determinant of industrialisation. Here it is desired to study L or employment in organised factory sector as a measure of industrialisation. The two independent variables that have influenced the level of employment in the organised factory sector are financial assistance disbursed by Odisha state financial corporation (OSFC) and industrial consumption of electricity. It is seen that the explanatory variables, F_d and E have turned out to be highly significant in explaining employment in the organised factory sector. The regression coefficients have their postulated signs and they are significant at 1 percent level of significance. The R^2 or the coefficient of determination has assumed a value of 0.8785. This reveals that the independent variables have explained the variability in the dependent variable to the extent of 88%. It can be safely concluded that both finance and electricity have significantly influenced employment in the organised factory sector. Finally, in equation No. 2.5, productive capital investment (K) is made the dependent variable. It is a recognised fact that deployment of high amount capital in the industrial sector is an indication of higher level of industrial activities. Hence, deployment of capital

is also a measure of industrialisation which reveals a high measure of industrial activities when capital investment is more and the vice-versa. The two important variables in this equation are financial assistance disbursed by Odisha State Financial Corporation (F_d) and the industrial consumption of electricity (E). It is seen that the explanatory variables are highly significant in explaining productive capital invested in manufacturing sector. The signs of the regression coefficients are in conformity with theory and they are statistically significant at 1 percent level of significance. The coefficient of determination is very high. The equation explains 91% variability in the dependent variable.

IV. CONCLUSION

The paper attempted to determine the interface between industrialisation and various policy measures announced by the state government and the institutional measures provided by state-level development banks in Odisha from time to time. A very backward state in the area of industrial development, namely; Odisha is chosen. The study is pursued with the help of secondary data and required stochastic models are formulated and estimated with the help of multiple regression analysis. The state government has taken appreciable steps to utilise the vast natural resources of the state. It seems that Odisha is on the threshold of rapid industrialisation and exciting new opportunities are opening up. Large numbers of factory units are being set up in the major, medium, small and cottage industrial sectors. What is more heartening is the upsurge of entrepreneurship among the youth of this state. But unfortunately, in spite of this, the strides made at the all-India level are not reflected in Odisha. Even today, Odisha continues to remain below the national per capita income. What worries more is the rising gap between the per capita income of Odisha and all-India. Undoubtedly, appreciable steps have been taken to promote industries in Odisha. During the pre-plan period, industries were virtually non-existent in Odisha. But the momentum of industrialisation is very much noticeably today. Rapid strides have been made in the field of infrastructure development. The progress in the industrial front can also be seen from the composition of industries in Odisha today. From a traditional agro-based

industrial set-up, the state has witnessed a favourable structural change to include modern sophisticated industries. The structural transformation of industries indicates effective utilisation of the state's vast natural resources, massive capital investment, and introduction of up-to-date technological know-how. The trends in industrialisation have also indicated substantial rise in the number of factory units, capital investment, employment, value of input, value of gross output, and value added by manufacturing process.

During the plan periods, investments in industries and infrastructure have created a solid industrial base. The industrial effervescence in Odisha does not any more cause eye brows to be raised in askance. It is now an established fact that has attracted the attention of industrialists not only from within the country, but also in a fair measure from abroad. The findings of this research indicate that the input factors have shown positive contribution to industrial development. It is found that finance, electricity and labour have contributed significantly. An encouraging fact about industrialisation in Odisha is the keen interest taken by the State Government. From time to time, the Government of Odisha has announced various policy measures to accelerate the pace of industrial development. The state-level development banks have also played a very significant role in the industrial development. The liberal financial assistance and promotional measures of these institutions has hastened the process of industrialisation. The analysis of the computerised data relating to various determinants of industrialisation indicates that input factors gave shown positive contribution to industrial development. It is found that finance, electricity and labour have made very good contribution. In Odisha, the important determinants of industrial development are identified to be assistance provided by Odisha State Financial Corporation (OSFC), industrial consumption of electricity, availability and efficiency of industrial workers, and urbanisation. It was found that financial assistance provided by OSFC and industrial consumption electricity are very significant input variables. Labour, finance, and electricity inputs have explained very high degree of variability in the value of gross output from the industrial sector. These variables have also shown positive contribution to value added by manufacturing.

REFERENCES

1. Akhouri, MMP and Sharma, S.V.S (1978) : Small Entrepreneurship Development in North Eastern India, SIET Institute, Hyderabad
2. Gupta, G.S. (1975) : Economics of scale in Indian cement Industry, Economics and Political weekly, X 13 (March 29), PP. 551-56.
3. Johanston, J. (1983) : Econometric methods, New York: Mc. Graw Hill
4. Mehta, Gobardhan (2004) : Changing values, The times of India, New Delhi, Oct 18, P. 18
5. <http://www.Aicte.ernet.in/Approvinst/engg2004.Doc>
6. Mc Guigun, J.R and Charles Moer, R. (1995) : Managerial Economics, Private and public sector decision analysis, the Dryden Press, Hinsdale, Illinors
7. Industrial Promotion & Investment corporation of Orissa Ltd.(20002) : Volume on Industrialisation, IPICOL, Bhubaneswar.
8. Prasad, K.N. (1993) : Problems of Indian Economic development, National and Regional Dimension, serling publishers, New Delhi
9. Valentine, J.L. and Mennis, E.A (1980) : Quantitative Techniques for Financial Analysis, Richard D. Irwin (Inc.) , Home wood, Ilinors.
10. Gupta, (G.S), A prototype model of Bank credit, Indian Economic Journal, Vol. XIX, Nos 4-5, PP> 515 – 27
11. Gupta, (G.S) (1980) : Locational Factors for Industries in valued District, Artha- Vikash, Vol, XVI No. I [Jan-June], PP. 58-70

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CUSTOMER SERVICE QUALITY IN THE INDIAN BANKING SECTOR

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ABSTRACT

The banking sector is one of the biggest service sectors in India and nowadays, banking sector is out to attract the biggest market of Asia in investment. The banking sector is focusing more on relationship development and providing efficient services to its customers. This paper tries to find out whether in the present scenario the banks are providing efficient services or not, and whether they have been able to satisfy their customers.

INTRODUCTION :

The Indian Banking System is very old consisting of various public sector financial institutions such as the Reserve Bank of India, State Bank of India, Punjab National Bank etc. and some new private sector players like ICICI and HDFC, etc. The Reserve Bank of India was set up under the R.B.I. Act 1935, and was subsequently nationalized after independence on January 1, 1949. Since then, it is playing a vital role in controlling the independent Indian Economy. Now many other financial institutions have come into existence with the objective of serving the people by catering to their financial and economic needs.

The most important factor contributing to their success is the service delivery of their products and the satisfaction of the customers. The quality of services provides the thrust in the success of the banking industry and has proved to be advantageous in the present day cut throat competitive market. Quality implies higher speed, higher efficiency at a lower cost. Therefore, the leading banks are taking special care of customer relationships and thereby providing them with the best and varied.

Service is invisible, intangible and inseparable from the person who extends it. It has become a decisive factor for the success of any public and private sector banks. Banks provide various types of products like loans, competitive interest rates paid, various types of accounts, modern banking including A.T.M., credit and debit cards etc. and intangible services like behaviour of employees, time of services, speed of work, accuracy etc. Providing all these services upto the desired level of customer is an art, and the key of their success lies in increasing their earnings.

Customer service is concerned with the creation, development and enhancement of individualized customer relationship with carefully targeted customers resulting in maximizing their total customer lifetime value by giving them maximum satisfaction against their expectations. Today, the approach towards customer service emphasizes on keeping as well as winning the customers. Thus the focus is shifted from customer acquisition to customer retention.

After nationalization, the total number of branches increased to 66514 as on 31, March 2003 as compared to 8260 as on 19, July 1969. Apart from rendering the traditional services of accepting deposits and granting advances, in recent years banks have started providing auxiliary service to revolutionize and enlarge the profile of customer services. Most outstanding of these services are –

1. Core Banking Solution
2. Community Banking
3. Information Technology Banking
 - a. Internet Banking
 - b. ATM services
 - c. Tele banking
 - d. Electronic Payment system
 - e. Cheque processing system
 - f. Services on the Web.

4. Credit Card Business
 - a. Small Business Credit Card
 - b. Co-branded Credit Card
 - c. Kisan Credit Card
 - d. Kisan Gold Card

The objective of the present study “Customer service in selected commercial banks in India” is to make a comparative study of services provided by commercial banks in the public as well as the private sector. It aims to make an empirical and analytical study of the present state of customer service in selected commercial banks and to assess the present standard of customer services in these banks. The study tries to compare the present state of customer services with the recommendations on customer service offered by the different committees like the Goipuriya Committee, Jilani Committee, Ghosh Committee, Narsimhan Committee, and the guidelines issued by the Reserve Bank of India.

This study has been undertaken keeping in mind the usefulness of banks for the customers. It will help to know the better functioning strategies, schemes and policies of the banks and to implement them in the rest of the banks for their proper functioning and good business. It will help in assessing the present expectations of the customers and the steps that can be taken to fulfill them. It will help the senior bank personnel in building a total quality culture and marketing environment in the banks.

The banks selected for the study are the State Bank of India, the Punjab National Bank, the Bank of Baroda in the public sector and the ICICI and the HDFC Bank in the private sector. The research involved primary data collection through questionnaire and survey, and secondary data collection through library research, publications of the Reserve Bank of India and the National Institute of Bank Management, circulars, brochures, annual reports of various banks and articles and journals on banking.

With this study, the present state of customer service provided by the above stated commercial banks in the public and private sector has been analysed. The

satisfaction level of the customers i.e. whether they are happy to be attached to the bank in which they are the account holders has been found through this study. The Primary Data for this purpose has been collected through questionnaires and personal interactions from 100 respondents of the five banks i.e. State Bank of India, Punjab National Bank, Bank of Baroda in the public sector and ICICI and HDFC bank in the private sector. These respondents have been chosen as per convenience from the various branches of these above stated banks in Allahabad.

FINDINGS OF THE STUDY

The main findings of the study are:

As per the data collected by the questionnaire, it was found that none of the customers are highly satisfied with the services provided by the banks. They have moderate satisfaction with certain services of all the banks. The bank's innovativeness in introducing new services, the speed of depositing money, the computerization of the banks, the service charges levied for providing various services, the speed of withdrawal of money and the décor of the bank are the factors which provide moderate satisfaction to the customers.

Time taken for opening an account, atmosphere of the bank, the interest rate on savings as well as on loan, the efficiency of the staff, their knowledge of various schemes and services launched by the bank, location and layout of the bank, attitude of the staff towards the customers and their availability at their respective counters, sitting facility in the banks, the parking place, and the bank's publications regarding services are the factors providing slight satisfaction.

Factors like cash credit facility, overdraft facility, bank's advertising regarding services, management of banks, quality and number of services provide lowest satisfaction. This shows that the customers are more or less dissatisfied with the working of the banks in which they have their accounts.

Another test was done with the same data to find out whether the customers are satisfied with the banking services of various banks. At 5% level of significance, using CHI TEST, it was found that the customers are not satisfied with the services

provided by the various banks. This is because the calculated value of χ^2 24.96 is less than χ^2 tabulated i.e. 36.45 at 5% level of significance for 24 degree freedom.

Individual bank-wise level of customer satisfaction of the five banks i.e. State Bank of India, Punjab National Bank, Bank of Baroda in the public sector and ICICI and HDFC bank in the private sector in Allahabad were found out by calculating the co-efficient of variation of the services provided by the five banks. The co-efficient of variation of State bank of India was 11.3262, of Punjab National Bank 16.1921 and Bank of Baroda it was 18.5236 in the public sector. In the private sector the co-efficient of variation of ICICI was 24.8146 and of HDFC bank, it was 35.09714. From this, it has been derived that the co-efficient of variation of HDFC bank is the highest, followed by ICICI bank, Bank of Baroda, Punjab National Bank and State Bank of India. Comparing all the five banks, it can be concluded that the HDFC bank has the greatest variability in its services while the State Bank of India is more consistent than the others.

Another test was done to find out bank wise ranking of various services i.e. whether the banks are providing efficient services or not. This was done by using co-efficient of correlation. The results were that there is highly significant correlation between the State Bank of India and ICICI, the State Bank of India and HDFC, the Punjab National Bank and the Bank of Baroda and ICICI and HDFC. Among them ICICI and HDFC banks have the highest significant correlation showing that they are providing efficient services.

A comparative analysis of the services provided by the Public and Private Sector Banks in Allahabad at bank level was done. A survey was conducted for this purpose and the salient features of this survey are as follows.

1. The State Bank of India has the maximum number of branches being 9000, followed by the Punjab National Bank 4587 and the Bank of Baroda 2700. In the private sector the ICICI bank has 790 branches followed by HDFC with 761 branches in the country. In Allahabad district the State Bank of India has maximum 45 branches followed by the Bank of Baroda (13), Punjab National Bank (10), ICICI

(03) and HDFC bank (02 branches). The private sector banks did not have any branches in the rural regions of the district. They are confined only to the urban areas.

2. All the banks, both in the public and the private sector provide ATM facility. In the district the State Bank of India has the largest number of ATM centers (39). In terms of coverage, when compared with the number of branches, it is found that the number of ATM centers of the private sector banks is much more than those of public sector banks.

3. It has been seen the Core Banking facility was launched in the ICICI bank in 2001. While in the public sector banks it was launched in 2004, in the Punjab National Bank it was launched in 2006 and in Bank of Baroda, the year of the introduction of the core banking facility was 2007. Thus the ICICI bank was the pioneer in launching the core banking facility.

4. It was found that both the private sector banks render smart card facility in Allahabad while in the case of public sector banks, only the State Bank of India provided this facility. In the rest of the banks, this facility has not yet been launched.

5. It has been noticed that private sector banks are far ahead of public sector banks in providing facilities in the field of information technology i.e. internet banking, mobile banking, phone banking.

6. The Punjab National Bank and the Bank of Baroda provide ATM facility free of cost. The State Bank of India charges Rs. 50 p.a., ICICI Rs. 110 and HDFC Rs. 100 for rendering this service.

7. The Punjab National Bank and the Bank of Baroda are also providing credit card facility free of cost while the State Bank of India in the public sector is charging Rs. 250 p.a. For the credit card facility ICICI is charging Rs. 499 p.a. while HDFC is charging Rs. 500 p.a. for availing this facility.

Thus after the analysis, it is interpreted that the private sector banks are providing more services than the public sector banks but when charges are taken

up, public sector banks think more about customer interest. They are either providing many services free of cost or at a nominal rate. The public sector banks are going through rapid progress to keep pace with the private sector banks. They are improving their existing services and introducing new ones to be in line with the private players.

SUGGESTIONS

The Reserve Bank of India being the central bank of the country, issues certain guidelines from time to time for the improvement of customer service in the commercial banks (both public and private sector). Various committees like the Goipuria Committee, the Jilani Committee, the Ghosh Committee, the Narsimhan Committee have given their recommendations on customer service in commercial banks which can be followed for the welfare of the customers.

For the betterment of customers and efficient customer service by commercial banks, the following suggestions may be followed by the banks:

1. The various services provided by the banks should be displayed in the branches at some visible place along with their service charges so that the customers are aware of the service their banks are providing. Often it so happens that the customers are unaware of some of the services provided by the banks and the charges levied on them.

2. The banks should see to it that any new schemes introduced in the bank should be displayed properly in the bank for the information of the customers. A counter should be set up from where the customers can know / gain information about the new schemes introduced by the banks along with their terms and conditions.

3. The number of counters in the branch should be as per the number of customers of the branch to avoid excess crowd on a few counters. The main counters like cash deposit and withdrawal should be at least 2 to 3 to avoid long queues.

4. As per the notification of the R.B.I., the banks should provide all possible assistance to the visually challenged. Special separate counters should be there for visually challenged as well as the other kinds of handicapped people so that they do not have to wait for their turn with others.

5. To avoid excessive rush on any counter the customer should be issued token numbers according to their need as soon as they enter the branch. They will have to wait in the sitting lounge till their number is called or displayed. With this neither there will be a rush at the counters nor will the customers have to stand in long queues for their turn.

6. As per R.B.I. notification, transactions from bank's own ATM for any purpose should be free. But a few banks are charging certain amount as service charge. They should follow R.B.I.'s notifications while providing customer service.

7. Complaint registers should be kept in the banks at some prominent place so that the customers can lodge their complaints. There should be a complaint box in which the customers can drop their complaints and these boxes should be checked everyday and the customers should be informed after redressal of their complaint within the shortest period of time.

8. There should be separate counters for senior citizens and women so that they do not have to stand in long queues for their turn.

9. The banking staff should be present at least 15 minutes before the bank is open for the customers. They should not leave their counters other than during the lunch hours.

10. A day should be fixed in every month for banker customer meet along with the timings so that the customers can meet the bankers and state their problems personally. The bankers can also introduce their new schemes and services in these meetings.

11. There should be a separate counter for passbook entry / account statement. This is so because the bank employees often feel reluctant to do it during usual working hours.

12. Banks should display the rates of interest and the time period of fixed deposit at some prominent place so that the customers can read it and take decisions.

13. There should be proper parking facility outside the bank.

14. There should be proper facility for drinking water and toilets in the banks for the customers.

15. Overdraft charges and charges on outstation cheques should be displayed for the customers.

16. Banks should charge less on bank drafts from students. Special discount should be given on these charges to students.

17. A day/date in every month should be fixed for distributing pension to the pensioners.

18. "May I help you" counters should be there to help the customers where a well conversant person should be appointed who should have the full knowledge of the basic services provided by the bank.

19. A person should be there to help the illiterate persons in filling the desired forms etc.

20. Collection charges on outstation cheques should be very nominal or free for pensioners, senior citizens and students.

21(a) The ATM machines should have an option of asking the customers the desired denomination in which he wants the money.

(b) The cash counters in the banks should provide cash to the customers in their desired denominations.

The above mentioned suggestions, if implemented, may help the banks in improving customer service at their branches, thereby winning the hearts of their customers.

CONCLUSIONS

On the basis of the entire study the following conclusions can be drawn:

1. Being the oldest in India, Public Sector banks have more branches in the country. This holds good for the city of Allahabad.

2. The number of ATM centers of public sector banks is more than that of private sector banks. Hence the distribution of branches and ATM centers of public sector banks is more than the private sector banks i.e. the State Bank of India is having the maximum branches and ATMs followed by the Punjab National Bank, the Bank of Baroda, ICICI and HDFC.

3. Private sector banks have emerged with new trends of information and technology whereas the public sector banks are far behind. The ICICI bank is

the pioneer in launching core banking facilities followed by HDFC, the State bank of India, the Punjab National Bank and the Bank of Baroda.

4. In case of Internet banking, Mobile banking, Phone banking also, ICICI bank is on the top followed by HDFC, the State Bank of India, the Punjab National Bank. These facilities have not yet been launched by Bank of Baroda in Allahabad.

5. Demat account facility and sweep-in facility is provided only by the State Bank of India in the public sector and not by the Punjab National Bank or the Bank of Baroda. In the private sector, both ICICI and HDFC provide these facilities.

6. (a) The service charges regarding ATM is highest in case of ICICI bank followed by HDFC and the State Bank of India. The Punjab National Bank and the Bank of Baroda provide this facility free of cost.

(b) The service charge for credit cards is the highest in HDFC bank followed by ICICI and the State Bank of India. The Punjab National Bank and the Bank of Baroda provide this facility free of charge.

(c) Regarding draft charges, the ICICI Bank charges the highest followed by HDFC, State Bank of India, Punjab National Bank, Bank of Baroda.

(d) The quarterly statement / passbook entry is free of charge in the case of all the three public sector banks - State Bank of India, Punjab National Bank and Bank of Baroda. As regards the private sector banks, both ICICI and HDFC provide the postal statement free of cost. If another copy is demanded by the customer, ICICI charges Rs. 28 per page while HDFC Rs. 100 per page.

It is concluded that as far as services are concerned, both the private sector banks surveyed are rendering efficient services and are far ahead of the public sector banks. Among public sector banks, the State Bank of India is the best, followed by the Punjab National Bank and the Bank of Baroda. But in terms of service charges the private sector banks charge very high rates which become a burden on the customers.

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DIMENSIONS OF GROWTH AND DISPARITY IN COMMERCIAL BANK CREDIT TO AGRICULTURE: ANALYSIS OF RECENT DATA

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ABSTRACT

Commercial banks' credit policy to agriculture has undergone considerable changes in the reform period affecting investment, production and agricultural growth. Being more focused on profitability and working to realize the prudential norms consistent with international standards their priority to agricultural financing has received a set back. Number of borrowable accounts in agriculture has been reduced sizeably and along with it there has been a steady decline in the share of agricultural credit to total bank credit between 1992 and 2001. As commercial banks' credit constitutes a major share in the total institutional credit deployed in agriculture, the reduction in borrowable accounts and credit deployment in the post-liberalization period has its serious implications affecting capital formation, technology use and ultimately agricultural growth in the country. There is a growing feeling that after liberalization policy not only commercial bank credit to agriculture has slowed down but also inequity has increased in the spread of bank credit across regions and farm sizes. Looking at poor growth in agriculture consequent upon near stagnancy in agricultural investment (public and private taken together), the Government of India in the 11th Plan has laid emphasis on raising agricultural growth rate to 4 per cent per annum and accordingly has targeted doubling the institutional agricultural credit flow between 2003-04 and 2006-07. Accordingly, it has been decided to increase the network of credit activities of institutional agencies in rural areas by enlarging clientele coverage through micro-finance units, lending against warehouse receipts etc as a part of financial inclusion policy. On this backdrop the present paper is an attempt (i) to study the trends in the flow of commercial bank credit to agriculture at the all-India and state levels, (ii) to

analyze disparity in its flow of credit across states and (iii) to examine the accessibility of commercial bank credit to marginal and small farmers.

The study is based on secondary data obtained from the publications of NABARD, Reserve Bank of India, Government of India and CMIE Report. Besides tabular analysis, quantitative techniques like Log Linear Growth Model ($Y=a+bT$) is used to calculate the temporal growth commercial bank credit to agriculture at the all-India and state levels. Co-efficient of Variation is worked out to measure the disparity in agricultural credit distribution of commercial banks across states. The data analysis ranged for the period from 2000-01 to 2006-07 for 15 major states.

The findings of the study reveal that not only there is wide variation in the growth of commercial banks' credit to agriculture across states but also distribution of commercial banks' credit is skewed in favour of more developed states (need not be agriculturally developed states). However credit distribution across farm-sizes does reveal better equity, contrary to the earlier findings. The findings of the study suggests for re-orienting agricultural credit policy strategy of the commercial banks so as to provide larger credit accommodation for realizing higher value addition in agriculture. The reforms in the banking system must take cognizance of the credit deficit states and make suitable policy changes to meet their credit requirement. On a priority basis the commercial banks should strengthen their rural institutional structure already weakened in the post reform years for achieving better credit delivery to agriculture. They have to increase the ratio of rural branches to number of villages for providing better access of banking services to the rural households.

Introduction

Since nationalization in 1969 there has been a structural shift in the institutional credit to agriculture from co-operatives to commercial banks. Available data indicate that with the commercial banks entering into the sphere of farm finance the institutional credit to agriculture has increased phenomenally in the country during 1970s and 1980s. The credit outstanding per hectare of gross cropped area which was only Rs. 158/- in 1974-75 has gone up to Rs. 1779/- at the end of June 1991. The share of commercial banks' credit in the total institutional credit outstanding to agriculture has increased from 10 per cent in 1975-76 to 55 per cent in 1990-91. However, with the

beginning of the policy of liberalization and financial sector reforms in 1991-92, there has been a significant shift in the credit policy of the commercial banks. Being more focused on profitability and working to realize the prudential norms consistent with international standards their priority for financing agriculture has been reduced significantly. (Thorat, 2006). Various banking indicators such as spread of branches in rural and remote areas, rural clientele coverage, credit delivery towards agriculture etc have received a setback. Number of borrowal accounts in agriculture has been reduced from 27.74 million in 1992 to 19.84 million in 2001, thus showing a loss of about 29 per cent (Shetty, 2009). The share of agricultural credit to total bank credit which was 17.7 per cent in the early 1990s has shown steadily declining and reaching as low as 10 per cent in 2000 and 2001. As commercial banks' credit constitutes a major share in the total institutional credit deployed in agriculture, the reduction in borrowal accounts and credit deployment in the post-liberalization period has its serious implications affecting capital formation, technology use and ultimately agricultural growth in the country. Data reveal that private investment in agriculture has shown a slow growth during 1991-2003 as compared to the period from 1974-75 to 1990-91 (Chand, 2009). Besides, there is a growing feeling that after liberalization policy not only commercial bank credit to agriculture has slowed down but also inequity has increased in the spread of bank credit across regions and farm sizes. Recent studies of Sidhu and Gill, 2006, Shetty, 2009 amply demonstrate high inequality persisting in institutional credit distribution across regions and farm sizes. Looking at poor growth in agriculture consequent upon near stagnancy in agricultural investment (public and private taken together), the Government of India in the 11th Plan has laid emphasis on raising agricultural growth rate to 4 per cent per annum and accordingly has targeted doubling the institutional agricultural credit flow from Rs86981/- crore in 2003-04 to Rs175000/- crore in 2006-07. Accordingly, it has been decided to increase the network of credit activities of institutional agencies in rural areas by enlarging clientele coverage through micro-finance units, lending against warehouse receipts etc as a part of financial inclusion policy.

Objectives

On this backdrop the present paper is an attempt (i) to study the trends in the flow of commercial bank credit to agriculture at the all-India and state levels, (ii) to

analyze disparity in its flow of credit across states and (iii) to examine the accessibility of commercial bank credit to marginal and small farmers. The paper by way of discussing the above issues makes some policy suggestions for achieving more widening and deepening of commercial bank credit in the interest of developing agriculture in future.

Data & Methodology

The study is based on secondary data obtained from the publications of NABARD, Reserve Bank of India, Government of India and CMIE Report. Besides tabular analysis, quantitative techniques like Log Linear Growth Model ($Y=a+bT$) is used to calculate the temporal growth commercial bank credit to agriculture at the all-India and state levels. Co-efficient of Variation is worked out to measure the disparity in agricultural credit distribution of commercial banks across states. The data analysis ranged for the period from 2000-01 to 2006-07 for 15 major states.

Results and Discussion

Growth in Credit Supply

Table-1 presents data on commercial bank credit disbursement (short and long term) to agriculture during 2000-01 to 2006-07. Observation reveals that the total credit advanced by commercial banks has increased from Rs 52827/- crore in 2000-01 to Rs 203297/- crore in 2006-07, at an annual growth rate of 27.45 per cent. During this period while the short term has grown from Rs 13486/- crore to Rs 76378/- crore (at annual rate of 33.02 percent), the long term credit has increased from Rs 39341/- crore to Rs 126919/- crore (at annual rate of 24.86 per cent).

Growth in agricultural credit outstanding of the commercial banks among 15 major states shows wide variation between 2000-01 to 2006-07 (Table-2). Annual compound growth varies from the lowest 4.28 per cent in case of Maharashtra to 30.2 per cent in case of Karnataka. Also, we find that out of the 15 states, 6 states such as Andhra Pradesh, Bihar , Haryana , Karnataka, Orissa and Rajasthan have shown higher growth rate in credit outstanding over the all-India average. For other nine states such as Assam, Gujarat, Kerala, Madhya Pradesh, Maharashtra, Punjab, Tamil Nadu

, Uttar Pradesh and West Bengal and annual growth rate in outstanding credit remains below the all-India growth average.

Distribution of Agricultural Credit Across States

One of the important goals set before the banking system was to provide a more even distribution of bank credit. Our analysis of inter-state variation in the agricultural credit outstanding shows the percentage share of different states in the outstanding credit of commercial banks during 2000-01 and 2006-07 (Table-3). Data reveal that agricultural credit distribution of commercial banks are more unevenly distributed across states in both the years. Two states such as Maharashtra and Tamil Nadu together accounted for more than one third of the total credit outstanding in these two years. For Assam while the share in total outstanding commercial banks' credit comes to less than one percent, Orissa and Bihar each shared a little more than one per cent in both the years. Credit distribution among the states has not been in proportion with the gross cropped area operated. States accounting a higher percent of gross cropped area have got a lower percentage of credit and vice versa. This is contrary to the findings of the earlier studies conducted in this regard (Rao,1994).

A better understanding of inter-state disparities in agricultural credit has been obtained by working out the quantum of credit outstanding per hectare of gross cropped area in the selected years. Although the per hectare credit amount has increased considerably for all fifteen states between 2000-01 and 2006-07, the pattern of distribution has not changed much. In the year 2000-01 the per hectare outstanding credit ranged from the highest Rs90646/- in case of Tamil Nadu to the lowest Rs. 7022/- in case of Bihar. For 2006-07, Tamil Nadu exhibited the highest per hectare credit outstanding with Rs 321021/- and Rajasthan the lowest with Rs24832/-. Along with Tamil Nadu, four states such as Karnataka, Kerala, Maharashtra, and West Bengal are found reaching six digit figure in per hectare credit outstanding. In contrast states such as Assam, Bihar, Madhya Pradesh, Orissa, Uttar Pradesh and Rajasthan have exhibited very low credit outstanding per hectare of GCA. As it is noticed, the accessibility of commercial bank credit is quite high in all southern states along with Maharashtra and West Bengal while it is at a very low level for Eastern and north-eastern states including Rajasthan and Uttar Pradesh. Interestingly the agriculturally

developed states such as Punjab and Haryana exhibit a lower agricultural credit outstanding compared to the all-India average. The co-efficient of variation (C.V.) in credit per hectare of GCA for the years reveals that inter-state disparity in commercial bank credit continues to remain high over the years. This is in line with the findings of earlier studies in this regard (Dadibhavi,1988). Lower availability of institutional credit in these states puts them in a vicious circle of lower credit availability, lower investment, lower adoption of technology, lower production forcing the farmers to increasingly dependent on money lenders for meeting their credit need.

Commercial Bank Credit According to Farm Sizes

A comparison of the percentage distribution of credit supply and area operated by different size-groups of holdings reveal (Table-4) that the marginal and small farmers holding 39 per cent of the total operated area share 52.57 per cent of outstanding credit (short and long term together) whereas the medium and large farms holdings 61 per cent operated area share 47 .43 per cent of total outstanding credit of commercial banks at the end of June,2004-05. Thus, the commercial bank credit seems more evenly distributed across farm-sizes. This is in contrast to the earlier studies showing uneven credit distribution of commercial banks by size-groups of holdings (Dadibhavi,1988).

Conclusion and Policy Implications

The findings of the study reveal that not only there is wide variation in the growth of commercial banks' credit to agriculture across states but also distribution of commercial banks' credit is skewed in favour of more developed states but not agriculturally developed states as reported in earlier studies (Shetty, 2009). However credit distribution across farm-sizes does reveal better equity, contrary to the earlier findings. The policy implications derived from the study seem to be quite far reaching as the growth in commercial bank credit varies widely across the states and there is increasing concentration of their credit in a few states despite the goals set before the banking system to provide a more even distribution of credit. In the present market economy context and growing commercialization of agriculture there is need for re-orienting agricultural credit policy strategy to provide larger credit accommodation so as to

realize higher value addition in agriculture. The reforms in the banking system must take cognizance of the credit deficit states and make suitable policy changes to meet their credit requirement. On a priority basis the commercial banks should strengthen their rural institutional structure already weakened in the post reform years for achieving better credit delivery to agriculture. They have to increase the ratio of rural branches to number of villages for providing better access of banking services to the rural households.

References

Chand Ramesh (2009) Capital Formation in Indian Agriculture National and State Level Analysis, D. Narasimha Reddy and Srijit Mishra, (Ed) Agrarian Crisis in India ,Oxford University Press, New Delhi

Dadibhavi R.V, (1988) Dimensions of Regional Disparities in Institutional Credit to Agriculture, Indian Journal of Agricultural Economics, Vol. XLIII (3) July-September

Kumar Anjani et al (2007) Performance of Rural Credit and Factors affecting the Choice of Credit Sources, Indian Journal of Agricultural Economics , Vol.62(3) July-September

Rao, C.H.H (1994) Policy issues Relating to Irrigation an Rural Credit in India , G.S.Bhalla (Ed) Economic Liberalization and Indian Agriculture, Centre for Research in Rural and industrial Development, Chandigarh

Sidhu R.S & Sucha Singh Gill (2006) Agricultural Credit and Indebtedness in India: Some Issues, Indian Journal of Agricultural economics, Vol.61 (1), Jan-March

Shetty S.L (2009) Agricultural Credit and Indebtedness Ground Realities and Policy Perspectives, D. Narasimha Reddy and Srijit Mishra, (Ed) Agrarian Crisis in India Oxford University Press, New Delhi

Thorat Y.S.P (2006) Rural Credit in India : Issues and concerns, Indian Journal of Agricultural Economics, Vol. 61 (1), January-March

Table-1

Growth in Commercial Bank Credit (Disbursement) to Agriculture in India during 2000-01 to 2006-07

Factors	Classification	No of Respondents	Percentage
Sex	Male	116	58
	Female	84	42
Age	Below 25 Yrs	41	20.5
	26-36 Yrs	58	29
	37-47Yrs	40	20
	48-58Yrs	28	14
	Above 58 Yrs	33	16.5
Marital Status	Married	115	57.5
	Unmarried	85	42.5
Educational Qualification	Under Graduate	45	22.5
	Graduate	92	46
	Post Graduate	63	31.5
Occupation	Professional	52	26
	Business	48	24
	Employee	64	32
	Housewife	36	18
Family Income(per month)	Below 15,000	40	20
	15,000 to 25,000	66	33
	25,000-35,000	52	26
	35,000-50,000	28	14
	Above 50,000	14	07
Family Size	2 members	58	29
	3 to 4 members	102	51
	Above 4 members	40	20

Table-2

Growth in Commercial Bank Credit Outstanding to agriculture at the all-India and different state levels during 2000-01 to 2006-07

(Rs. in Crore)

States	2000-01	2006-07	CAGR (between 2000-01-2006-07)
Andhra Pradesh	35348.8	128746.7	24.14
Assam	3759.8	13435.8	16.43
Bihar	5547.2	27519.1	30.10
Gujarat	29483.0	106031.3	22.22
Haryana	10747.4	41541.3	25.89
Karnataka	33856.0	170833.5	30.21
Kerala	18697.1	61066.6	22.22
Madhya Pradesh	15264.2	42364.8	20.13
Maharashtra	144064.2	501082.1	4.28
Orissa	6262.3	30122.9	29.14
Punjab	18718.8	55279.6	18.36
Rajasthan	13662.1	53885.9	24.76
Tamil Nadu	57106.8	192612.6	22.12
Uttar Pradesh	27192.6	91538.3	21.82
West Bengal	29275.6	103334.7	21.92
All-India	538433.8	1947099.6	23.63

Table-3

Commercial Banks' Outstanding Agricultural Credit Distribution Among States

States	2000-01 Share in Credit /.			2006-07 Share in Credit/.		
	GCA	Credit Outs.	GCA	GCA	Credit Outs.	GCA
	(%)	(%)	(Rs.)	(%)	(%)	(Rs.)
Andhra Pradesh	7.24	6.56	26184	6.93	6.61	99036
Assam	2.17	0.69	9170	1.93	0.69	36313
Bihar	4.22	1.03	7022	3.84	1.41	37188
Gujarat	5.71	5.47	26802	5.86	5.44	96392
Haryana	3.26	2.00	17619	3.26	2.13	65939
Karnataka	6.57	6.29	28213	6.76	8.77	131410
Kerala	1.61	3.47	62324	1.55	3.14	204921
Madhya Pradesh	9.55	2.83	8480	10.17	2.17	21614
Maharashtra	11.72	26.76	65483	10.24	25.73	254356
Orissa	4.21	1.16	7926	4.52	1.55	34624
Punjab	4.24	3.48	23695	4.19	2.84	68246
Rajasthan	10.28	2.54	7191	11.25	2.77	24832
Tamil Nadu	3.39	10.61	90646	3.13	9.89	321021
Uttar Pradesh	13.61	5.05	10877	13.02	4.70	36469
West Bengal	4.87	5.47	32391	4.94	5.31	108773
All-India	100	100	27956	100	100	101043
C.V	58.38	115.58	89.50	58.21	111.95	88.19

Table-4

Commercial Banks Credit Supply (Outstanding) According
Farms (at the end of June 2004-05)

Farm Size (in ha.)	No. of Holdings (percent)	Area Operated (per cent)	Amou (R
Marginal	63.0	18.82	20
Small	18.9	20.18	20
Medium & Large	18.1	61.00	37
Total	100	100	78

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ADJUDICATION AND DISPUTE RESOLUTION IN ORISSA

Ms. Priyanka Mishra* & Prof. P.K.Mohanty**

Introduction

Adjudication has dug deep roots in the field of labour. Though collective bargaining caters to long term peace and organized trade unions and established concerns prefer to bargain and amicably settle labour demands, failure to settle amicably often makes adjudication the preferred trial of strength. Except for a handful that resort to strikes and lockouts, labour has come to cultivate the habit of adjudication. This confidence in adjudication has been inspired by the benefits earned by labour through this system. Employers in the country have found adjudication beneficial to them in as much as it not only curbs the habit of labour to direct action but also serves as a powerful check and control on the extravagances of the demands and costs of labour. The state can hardly find a better substitute for effecting social and economic justice through rule of law in the labour field. Industrial adjudication has therefore, very much come to stay in our country (Shenoy,2003). Adjudication means a mandatory settlement of industrial disputes by Labour Courts, Industrial Tribunals or National Tribunals under the Act or by any other corresponding authorities under the analogous State statutes with specialised jurisdiction in the labour management field.

Data for this paper have been collected from the office of the Labour Commissioner, Orissa. Discussions were held with the officers of the Labour Court and Industrial Tribunal at Bhubaneswar about the procedures adopted by them.

Adjudication Under the Act

Section 7,7A and 7B of the Industrial Disputes Act, 1947 deal with the constitution of adjudicatory authorities, viz. Labour Courts, Industrial Tribunals and National Tribunals, respectively. A labour court is constituted by the appropriate government to adjudicate and render awards in the matters mostly relating to rights, such as

- a) discharge or dismissal of workmen, including reinstatement of or grant of relief to workman wrongly dismissed;
- b) withdrawal of any customary concession or privilege;
- c) illegality or otherwise of a strike or lockouts; and
- d) all matters other than those specified in schedule III.

Industrial Tribunals under Section 7A of the Industrial Disputes act 1947 have also been constituted to adjudicate upon the following matters falling within Schedule III.

- a) wages, including the period and mode of payment;
- b) compensation and other allowances;
- c) ours of work and rest intervals;
- d) leave with wages and holidays;
- e) bonus, profit sharing, provident fund, and gratuity;
- f) shift working otherwise than in accordance with standing orders;
- g) classification by grades;
- h) rules of discipline;
- i) rationalization;
- j) retrenchment of workers and closure of establishment.

The Central Government may constitute National Industrial Tribunals for the adjudication of Industrial Disputes which in its opinion, involve questions of national importance or are of such nature that industrial establishments situated in more than one states are likely to be interested in or affected by them. The Presiding officer of the National Tribunal is appointed by the Central Government. He should be or have been a Judge of the High Court.

Labour Courts and Industrial Tribunals are also competent to inquire into and investigate industrial disputes referred to them and upon adjudication awards which are binding on the parties. The Labour Court and Industrial Tribunal also act as forum of appeal under section 11 A in the matter of discharge, dismissal or termination of employment.

Labour Administration in Orissa

The Labour and Employment Department, responsible for administering labour matters, came into being in 1980. Prior to that, it was Labour, Employment and Housing Department. The activities of Labour and Employment Department are being implemented through six Heads of Departments including two Presiding Officers of Industrial Tribunals as hereunder:

- i. Labour Commissioner, Orissa
- ii. Director of Factories and Boilers, Orissa
- iii. Director, Employees State Insurance Scheme, Orissa
- iv. Director of Employment, Orissa
- v. Presiding Officer, Industrial Tribunal, Bhubaneswar
- vi. Presiding Officer, Industrial Tribunal, Rourkela

In addition, there are 3(three) Presiding Officers of Labour Courts at Bhubaneswar, Sambalpur and Jeypore who are responsible for adjudication of industrial disputes.

The Labour Commissioner, Orissa who is the administrative head for implementation of various labour legislations/ schemes is assisted by Joint Labour Commissioners,

Deputy Labour commissioners, Assistant Labour Commissioners and Labour Officers at Directorate level. There are four Zonal offices at Cuttack, Sambalpur, Rourkela and Jeypore headed by Deputy Labour Commissioners who are assisted by Assistant Labour Commissioners, District Labour Officers, Assistant Labour officers and Rural Labour Inspectors for effective implementation of the programmes throughout the state.

The Presiding Officers of the Labour Courts and Industrial Tribunals are one man court and belong to Orissa Superior Judicial Service having a minimum experience of seven years. While Presiding Officers of Industrial Tribunals are of the cadre of the District Judge, the Presiding Officers of Labour Courts belong to the cadre of Additional District Judge.

Procedures adopted by Labour Court and Tribunal

The disputes are referred to the Labour Court and Industrial Tribunal under section 10A of the Industrial Disputes Act by the State Government after failure of conciliation proceedings. The Act lays down the conditions and circumstances under which the appropriate government can make or refuse to make a reference of an existing or apprehended industrial dispute to the respective tribunals or courts for adjudication. There are two requirements to be adhered to by the government before exercising its discretionary power. Firstly, it has to arrive at a subjective opinion as to whether an industrial dispute exists or is apprehended. Secondly, even after it has come to such a conclusion, it has to consider the expediency of making such reference. In other words, the existence of an industrial dispute does not necessarily follow that the government is bound to refer it (Sarma, 2002). Orissa Industrial Dispute Rules, 1959 prescribes time limit for every stage leading to settlement of disputes. While referring an industrial dispute for adjudication to the Labour Court or Tribunal [Section 12(5)], the state government direct the parties raising the dispute to file a statement of claim complete with relevant documents, list of reliance and witness within fifteen days of the receipt of the order of reference and also forward a copy of such statement to each one of the opposite parties involved in the dispute.

The Labour Court or Tribunal ascertains that copies of statement of claims are furnished to the other side by the party raising the dispute. Then it fixes the first hearing on a date within one month from the date of receipt of the order of reference and the opposite party or parties file their written statements together with documents, list of reliance and witnesses within a period of fifteen days from the date of first hearing and simultaneously forward a copy thereof to the other party.

After being directed, if the party raising the dispute does not forward the copy of the statement of claim to the opposite party or parties, the Labour Court or Tribunal shall direct the concerned party to furnish the copy of the statement to the opposite party or parties and for the purpose extend the time limit for filing statement or written statement by an additional period of 15 days.

The party raising a dispute may submit a rejoinder if it likes, to the written statement(s) by the opposite party or parties within a period of 15 days from the date of filing of written statement by the latter.

The labour court or tribunal then fixes a date for evidence within one month from the date of receipt of the statements, documents, list of witnesses etc. which is normally within sixty days from the date on which the dispute was referred for adjudication.

Evidences are recorded either in the court or an affidavit but in case of affidavit the opposite party has the right to cross examine each of the deponents filing the affidavit. As the oral examination of each witness proceeds, the Labour Court or Tribunal makes a memorandum of the substance of what is being deposed. While recording the evidence the Labour Court or Tribunal follows the procedure laid down in Rule 5 of order XVIII of the first schedule to the Code of Civil Procedure, 1908. On completion of evidence, arguments are either heard immediately or a date is fixed for arguments/ oral hearing within a period of fifteen days from the close of evidence.

The Labour Court or Tribunal normally grants an adjournment for a week at a time, but not more than three adjournments in all at the instance of the parties to the dispute. In case any party defaults or fails to appear at any stage, the Labour Court or Tribunal may proceed with the reference *ex parte* and decide the reference application in the

absence of the defaulting party if the defaulting party does not cite the justified reasons for absence.

The labour court or tribunal submits its award to the state government within one month from the date of oral hearing of arguments or within the period mentioned in the order of reference whichever is earlier. The awards are published in the Orissa Gazette within one month of its receipt(Section 17).

In case of reference under section 2A, the Labour Court or Tribunal ordinarily submit its award within a period of three months. Under section 36 of Industrial Disputes Act, 1947, a party can engage a lawyer with the consent of the opposite party. Normally the workman is represented by the trade union to which he belongs.

Both the Labour Court and Industrial Tribunal submit its quarterly report to the High Court and six monthly report to the Central Government through the Labour Commissioner. It sets a deadline for early disposal of cases, viz. 3 days for reference disposal, half a day for disposal under 33C (2), one day under 32 2(B) and half a day for restoration of the Misc Case etc.

Industrial Disputes in Orissa

Table-1

Year	Dispute pending at the beginning	Dispute raised during the year	Total disputes	Disputes Failed
2000	315	523	838	377
2001	286	454	740	314
2002	278	428	706	306
2003	247	365	612	239
2004	270	308	578	223
2005	244	285	529	184
2006	265	250	515	229
2007	185	209	394	147
2008	186	214	400	123
2009	222	242	464	138

(Source:-Hand Book of Labour Statistics,Orissa-2010)

The analysis of industrial disputes for a decade i.e. 2000-2009 reveals a gloomy picture so far as the settlement is concerned. The percentage of settlement varies from a dismal 13.75 percent in 2008 to a maximum of 21.8 percent in 2002, whereas the percentage of pending disputes varies between 34.12 percent in 2000 to 55.5 percent in 2008. The dispute disposal process is not at all satisfactory.

Table -2

Year	Previous pending	Received	Total	Referred to Labour Court/Tribunal	No case of reference	Pending at the end
2000	636	377	1013	290	6	717
2001	717	314	1031	196	29	806
2002	806	306	1112	257	68	787
2003	787	239	1026	201	14	811
2004	811	223	1034	132	8	894
2005	894	184	1078	156	0	922
2006	922	229	1151	180	19	952
2007	952	147	1099	137	37	925
2008	925	123	1048	127	6	915
2009	915	138	1053	131	11	911

(Source:-Hand Book of Labour Statistics,Orissa-2010)

The percentage of failure reports referred to the Labour Court and Industrial Tribunal during the last decade i.e. 2000-2009 varies from 12.11 to 23.11. The average reference during the decade is only 17 percent. The pending failure report varies from 70.77 percent in 2000 to 87.30 percent in 2008. No action has been taken on a majority of failure reports submitted through conciliation process.

Table-3

Awards of Industrial Tribunals and Labour Courts

Year	No. of awards published	No. of awards implemented	No. of prosecution filed	No. of revenue recovering proceedings filed
2000	452	31	43	Nil
2001	794	48	67	4
2002	506	148	36	3
2003	245	20	10	1
2004	202	31	--	3
2005	210	25	34	--
2006	142	46	24	--
2007	143	28	12	--
2008	183	48	--	--
2009	170	57	31	--

(Source:-Hand Book of Labour Statistics,Orissa-2010)

The number of awards published year wise is more than the reference by the government. Under section 33C (2) of Industrial Disputes Act, 1947, workmen directly file cases in the labour court mostly because of less payment in small IT companies. The percentage of implementation during the decade (2000-2009) reveals that the year 2009 recorded the maximum i.e. 33.52, whereas in 2001 it was only 06. It was found that in a maximum 20% of cases, the employer challenges the awards in the High Court and in less than one percent cases; they file writ petitions in the Supreme Court. Therefore the awards remain unimplemented in spite of filing prosecutions.

In many cases, there have been inordinate delays in adjudication of disputes as well as disposal of claim applications. The major causes of delay are due to elaborate procedures followed by the tribunal, such as:

- a) notice to parties for filing claim;

- b) filing claim statements by the workman and date fixed for filing written statement by the employer;
- c) filing of written statement by the employer and date fixed for filing rejoinder by workman;
- d) filing of rejoinder by workman and date fixed for employers' evidence;
- e) recording of employers' evidence and date fixed for workmen's evidences;
- f) recording and collection of evidence of workman and date fixed for argument;
- g) arguments and awards given or resolved; and
- h) award.

The most prominent cause responsible for delay in adjudication is frequent adjournment granted by the Labour Courts and Tribunal. Both workman and employers sense adjournment after adjournment at each of the above stages and this contributes to the delay in dispute resolution.

The statutory procedure for adjudication and the steps and time limits prescribed for the process render it cumbersome and dilatory. Though the awards given by Labour Courts or Tribunals shall be regarded as final and 'shall not be called in question by any court in any manner whatsoever [Sec 17 (2)]', the aggrieved parties usually invoke the extraordinary jurisdiction of High Court(Art.226) or the Supreme Court(Art.32) and challenge the award on one or the other ground such as lack of jurisdiction, error of law, violation of principle of natural justice, etc. The issue is first taken to the High Court and the aggrieved party then disposal of the cases.

Conclusions

However critical one may be about the system of industrial adjudication, its contribution to the development and industrial harmony in our country has been remarkable. Apart from the adjudicatory authorities under the Act, different High Courts and also the Supreme Court of India have laid down definite principles and broad guidelines

on industrial matters. Adjudication, by and large succeeded in bringing out some measures of industrial peace. Industrial adjudication has endeavoured to resolve the dispute with a pragmatic approach keeping in view the socio economic requirements of society, and also the social welfare philosophy of industrial relations enshrined in Directive Principles of the Constitution of India.

References

Sarma, A.M(2002),Industrial Relations, Himalaya Publishing House.

Shenoy, P.D(2003),”Effective Labour Court Administration: Trends and Issues” in A. Sivananthiran & C.S. Venkat Ratnam (eds)”Prevention and Settlement of Disputes in India”, Indian Industrial Relations Association and International Labour Organization, New Delhi.

Venkata Ratnam, C.S(2009),Industrial Relations, Oxford University Press.

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HR INITIATIVES FOR SUSTAINING TURNAROUND- A CASE STUDY OF ROURKELA STEEL PLANT

* Ms. Archana Choudhary

ABSTRACT

People are the most important resource for any organisation. Investing in human resources can go a long way in building a strong organisation capable of facing the toughest of challenges. Based on this premise began the voyage of Rourkela Steel Plant's (RSP) turnaround which is unique in terms of mass participation and involvement of employees having taken place without aid of any external factor or resources sustained over a long period of time and is still continuing. A series of initiatives were taken to tap the unlimited potential of human resources and whose focal point was survival and future of RSP, later metamorphosed to profitability and prosperity of RSP. This article is an attempt to discuss and analyse in detail the various HR strategies taken by RSP to sustain the turnaround in the long term.

INTRODUCTION

Most management theories espouse that people are important but few of them treat people as more than a resource to be managed like any other resource whereas some others treat people as a capital investment. As frenzy of downsizing is taking place all over the world today, it becomes more evident that people are viewed not as a resource but primarily as a cost to be controlled and minimized. The problem with this approach is that human resource management has been segregated from the general management problem, as if there were some other kind of management other than human resource management, but there is no denying the fact that people constitute the living blocks that make the organisational edifice: blocks that have almost boundless potential for growth and accomplishment. These qualities while making people resources exciting to work also pose a formidable challenge in terms of control and regulation given their diversity, unpredictability, dynamism and emotional nature. That human resources are the most important asset is something all organizations vouch for - but to make people within the organisation feel significant and respected is the real issue which organisations need to constantly work at. To feel really important and cared for, people look for consistent and substantive demonstration in various ways and levels like recognition of good performance, involvement and participation in decision-making, equity, fairness and transparency in dealings to name a few. It is reasonable to postulate that those few organizations in the world who understand that all management involves people, and who practice the principles of empowerment and trust building will consistently outperform those who do not, all over the world regardless of turbulent and tumultuous situation, Rourkela Steel Plant (RSP) being one of them. Therefore, to build an organization that is truly people-focussed, it is important that all key functions of management are geared towards involving and aligning people to business processes and goals; and taking this aspect in view RSP constantly strives for the same.

In accordance with the belief that human resources plans and strategies must not just be aligned with the business strategies and objectives of the organisation but also help the organisation accomplish them especially after turnaround, the HR plans and policies of RSP have been formulated with a view to help the plant achieve its

performance targets and business objectives in the short-term as well as the long-term.

The short-business objectives of RSP are:

- To maintain consistent production and enhance capacity utilisation.
- To ensure desired quality in the end-products as per customer requirements.

The long-term objectives of RSP are:

- To increase production through expansion in capacity and increased utilisation of existing capacity to enhance market-share.
- To attract new customers while retaining the existing ones by ensuring high quality in products to meet customer expectations.
- To reduce production cost by way of process-improvements and reduction of wastages/overheads so as to bring it to competitive levels of domestic industry.

The objectives of the organisation as enumerated above is the standard by which RSP judges the effectiveness and true worth of their actions and therefore they constitute the main source of input in the process of framing of policies and action plans.

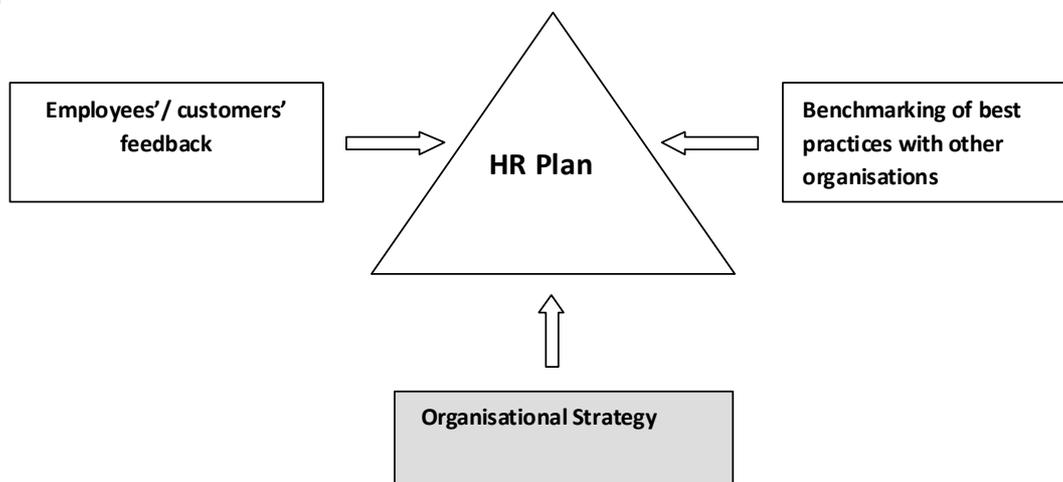


Figure 1: Alignment of HR plans with organisational strategy at RSP

Keeping the above model (Fig. 1) in mind, the broad HR strategy of RSP has been shaped with the following objectives:

- Enhance productivity and competencies of employees to enable RSP achieve its performance targets on a continuous basis.
- Promote a culture of industrial harmony and synergy through engagement and involvement of employees and other stakeholders.
- Strive to enhance the quality of life of employees and people staying in the periphery.
- Ensure fairness, equity and transparency in all dealings.
- Develop customer-centric HR processes and systems.

These objectives are materialized through the annual action plans and other major interventions taken up from time to time.

HR plans for meeting short term objectives of RSP

1. Increase competency of employees through training on required knowledge and skills (including training on more than one skill – *multiskilling*)

The following initiatives were taken to increase the competency of employees.

- During 2007-08, 12462 employees were trained under various modules so as to equip them adequately for maintaining a high tempo of production. These modules include technical skill development training like Basic Engineering skills, Equipment specific training, Technology awareness programmes and Systematic maintenance management.
- Competency assessment was done in respect of 2679 employees out of whom training needs were identified for 323 employees. Competency training was imparted to 174 employees during the year and the remaining shall be covered the next year.
- Multi-skill training was imparted to 375 employees during 2007-08 in skills like Welding and Gas cutting, Material Handling, Repair and Fitting of Electrical

Machines and Electro Hydraulics etc. Redeployment Training was also conducted for employees transferred to other departments.

2. Improved utilisation of human resources through restructuring of jobs / organisation

Some of such measures taken up in 2007-08 were –

- a) Manning of new/ additional activities was done through redeployment & posting of limited manpower. Altogether 216 employees were redeployed during the year; some of the important areas that profited most from this were Manning of Coke Ovens Battery no. 1, starting Manpower for expansion activities of Pipe Coating Plant & CDI in Blast Furnace no. 4.
- b) Increased working hours at Ispat General Hospital Library, Cash counter & blood sample collection.
- c) Cross line of production deployment in Cold Rolling Mills, Repair Shop (Mechanical), Lime & Dolomite Bricketing Plant & Foundries.
- d) De-criticalisation of crane operation & shipping activities.
- e) 74 employees deployed on Mobile Equipment operation in addition to own job.
- f) 7 days working started at Fitting Shop in Repair Shop (Mechanical) & Trolley grinding section of SPP.
- g) Central Blood Collection Centre opened to enable collection of blood samples at one place.

3. Motivating employees to contribute their maximum on the job

Employees were motivated to give their 100% efforts through incorporating both monetary and non monetary schemes. They are:

A] Monetary schemes for enhancing earning of employees by improving performance and quality.

Apart from the existing schemes for incentive and reward based on production, a new scheme called Daily Production Reward Scheme (now rechristened as Daily Production Incentive Scheme) was introduced. The aim of this scheme was to ensure consistency in achieving production targets and rewarding employee for the same on a daily assessment basis. The earnings potential under this scheme was Rs. 3000 (Rs. 100/- per day of achieving Level-IV target). Consequent of this scheme, the total potential of earnings has doubled from approximately Rs. 3000/- earlier (for a senior level non-executive employee) to Rs. 6000/- now.

B] Non-monetary schemes for recognition and appreciation

Besides, monetary schemes, it is also important that employees are felicitated and recognised formally for the special jobs / initiatives / accomplishments. RSP practices following non -monetary schemes for recognising and appreciating the performance of employees.

- Special award for group performance given annually on 1st April.
- Employees are nominated for prestigious national awards like Shram Awards and Vishwakarma Rashtriya Puruskar. Last year, 11 employees were conferred with the prestigious Vishwakarma Rashtriya Puruskar. Also, 10 nominations comprising 34 employees were sent for Shram Awards.
- 85 employees were conferred with Nehru Vishisht Karmachari Puraskar Award – award amount increased.
- 20 employees were given Best Shift Incharge award.
- 6 executives were conferred with Jawahar award.
- Centralised Database of Award winners were created for felicitation process.

- 6 employees of Plate Mill received Gold Medal at International Convention of Quality Circle 2007 in Beijing.

- 2597 employees issued with appreciation letters for commendable jobs.
- 41 innovative jobs were identified and sent to Corporate Office along with profile of employees involved.

C] Taking care of employees' safety at the workplace:

Safety is the first and foremost consideration in RSP. There is a central and 9 zonal safety committee reviewing safety measures in the plant every month. Due to the effects taken by RSP the incidents of accidents have been reduced from 2005 to 2008 (Table 1). To target **zero accident**, following steps have been taken to educate employees for preventing accidents:

- Think for a while before doing the job.
- Understand the job properly.
- Avoid unmindfulness while working.
- Follow standard operating & maintenance practices.
- Ensure proper shut downs before starting the job.
- Use proper tools required for the job.
- Use necessary personal protective equipments like safety helmets, shoes, hand gloves, safety harness (while working at heights), fire retardant jackets, goggles, gas masks etc.

Table 1: Safety incidents at Rourkela Steel Plant during 2005-08

Year	No. of reportable accidents	Total injuries	Accident per thousand employees
2005-06	39	704	1.82
2006-07	37	586	1.75
2007-08	32	443	1.54

Zero Accident Recognition Scheme

- To create a culture of intolerance to accidents.
- To treat workplace injury as a collective failure.
- To recognise and reward departments reporting 'nil' injury (including road accidents).
- A sustained campaign for accident free steel.
- Award is given to the department recording zero accidents each month. This is in the form of community lunch for all the employees organised by the department itself.

D] Taking care of employees' welfare at the workplace as well in the township.

- Project KIRAN – A special counselling & support programme was launched to counsel and guide the employees on different problems like alcoholism, family discord & health problems. 291 employees have been counselled along with their families in 34 sessions.
- Under the regular counselling programmes conducted at workplace and residence around 1200 employees were counselled for assistance against absenteeism, alcoholism, accidents etc.
- Health check-up was conducted for 11238 employees to examine their medical well-being and corrective action taken in needful cases. Special awareness programmes were also conducted on HIV, Epilepsy, Hypertension and Heart disease.
- 23 restrooms & 2 PCBs renovated for providing improved facilities.
- Air-conditioned *Nestle* outlet was opened up.
- Process was also initiated for opening of 3 numbers of canteens by M/s Indian Coffee House – a reputed agency for providing hygienic and quality food products
- Final Settlement is effected on last working day of the month for all interested employees. 33 employees chose to take benefit of this last year.

HR plans for meeting long-term objectives of RSP

1. Preparing for working with reduced manpower - As a result of natural separation coupled with reduction in number of new inductions RSP is gearing up to work with the reduced manpower. The specific action points for achieving this are as follows:

- a) Several non-core, low-technology or specialised jobs have been identified and outsourced. Under this initiative, certain actions have already been taken up while many others are in the pipeline. Sanitation jobs in places like Institute of Periphery Development Complex (which houses the Corporate Social Responsibility department), Rourkela House, other guest houses, HRD Centre and Central Power Training Institute have been outsourced to specialised agencies resulting in much improved sanitation levels besides obviating the manpower requirements for these jobs. Some jobs pertaining to maintenance of specific equipments or facilities are also being explored for outsourcing through service contracts. A committee has been constituted to identify such jobs which can be outsourced.
- b) Merger of departments, sections etc. for increased efficiency and synergy and reduced manpower requirement.
- c) Mechanisation of manual tasks like sweeping, cleaning etc.
- d) Identification and elimination of unproductive practices in various production / maintenance processes.

2. Enhance competency levels of employees to meet both present and future requirements of skills- To meet this objective, apart from the regular training activities, specialised department-specific modules have been designed. Employees have been sent for specialised training to outside locations in India and abroad on technical as well as managerial / functional topics to equip them for handling future requirements in view of modernisation and expansion. Competency assessment as well as training people for recouping competency gaps in all major areas is already underway since last 3 years and so far 40 departments of RSP have been covered under competency assessment programme.

Table 2: Competency assessment exercise in RSP

Year	Department covered	No. of Job Positions	No. of Employees	Training need identified for	Training imparted to
2005-06	22	630	2965	1129	989
2006-07	05	147	1541	339	393
2007-08	13	149	2679	323	174

Source: Official documents of HRD Department of RSP

Besides this, training people on multiple skills, i.e. beyond the parent one they possess, has been taken up in earnest so as to train them to take new and diverse assignments that are likely to arise due to reduction in manpower, change in technology, merger of units or restructuring of jobs. In the last three years 1351 employees have received training in multi skilling. From 2008-09 onwards, a new centralised scheme for multi skilling is to be adopted. Under this special care is to be taken to assess utilisation of the multiple skills on which employees are trained.

3. Build relationship based on mutual trust and respect between employees and management- In a good and progressive organisation, it is important that all stakeholders, particularly the employees, feel an integral part of it. When the employees as well as the other stakeholders like unions and associations feel that their interest is aligned to that of the organisation, they whole-heartedly work towards achieving organisational objectives as if it were their very own. Therefore, total commitment comes from belongingness for which building a relationship based on trust and mutual respect is essential. To achieve this, RSP has, over the years, regularly and continually engaged the employees at multiple levels and forums. Joint Committees and communication meetings have become institutionalised and serve as a medium of constant dialogue, interaction and understanding between representatives of the management and the employees.

Formal joint committees like Central Consultative Committee, Central Safety Committee, and Safety Committee of Departments etc. have been constituted where

employees and their representatives are members. These committees solicit the suggestions of employees as well as help in implementing various initiatives for the Safety, health, welfare and productivity of the organisation.

Besides this, the following structured interactions are conducted periodically:

- Weekly Mass Contact Exercises in which typically 400-500 employees of all sections interact with the Managing Director/Executive Directors.
- Monthly GM's Communication Exercises in which 25-30 employees interact with General Managers.
- Bi-monthly Communication Exercises at the Head of Department level on issues of departmental productivity, safety and welfare aspects.

4. Create a HR workflow that reduces time, minimises errors and enhances employees' satisfaction levels- For achieving high employees' satisfaction, it is important to ensure that the internal HR processes are not time-taking, error-prone and non-standard. To achieve this objective, HR services at RSP have been computerised to a large extent as a result of which the basic services delivered to the employees have become faster, standard and accurate. Services like issuance of promotion orders, providing Service Certificate, No Objection Certificate have been fully computerised. A Personnel website has also been launched on the intranet which gives information to employees on various issues of interest including recent notifications / orders / circulars etc. However, to really get the benefit of computerisation, RSP has initiated the process of making the major HR processes under the purview of Enterprise Resource Planning. Under this, HR services including payroll and leave / attendance administration would be covered so that information is available in real time basis to the agencies / officials concerned as well as the employees themselves. Obtaining the ISO: 9001 certification for Personnel department since 2006 has also helped in streamlining and standardising processes in HR as well as allied areas which has benefitted the employees in terms of quality of service they get.

By virtue of their direct and continued involvement with the job and the process coupled with the experience, expertise and knowledge that they bring along, the employees of Rourkela Steel Plant is regarded as the most prolific and potent source of improvement initiatives in the organisation. Employee involvement in improvement activities is the key to the latter's effectiveness and sustainability. To ensure that employees are an integral part of the improvement programmes, the following measures have been taken:

■ **Performance Improvement/ Excellence Workshops**

These workshops are conducted to generate suggestions/ ideas of employees for improvement in performance.

■ **Constitution of cross-functional teams / Task Forces on specific issues**

These teams are formed to perform specific tasks and handle specific issues as and when they arise.

■ **Committees**

Formal committees like Central Consultative Committee, Central Safety Committee, and Safety Committee of Departments etc. have been constituted where employees and their representatives are members. These committees solicit the suggestions of employees as well as help in implementing various initiatives for the safety, health, welfare and productivity of the organization.

■ **Communication programmes**

Communication programmes like Mass Contact Exercise (held at MD & ED level), GM's communication meeting and Head of Department's communication meeting where suggestions of employees are solicited on issues related to improvement. These forums regularly provide many inputs for improvement measures that are taken up in full earnest and on high priority by the agency concerned (Table 3).

Table 3: Improvement issues raised in mass contact exercises and actions taken thereupon in RSP

Issues	Actions taken
Disc of impact crusher in OBBP not available	Developed in-house.
Provision of Cabin glasses in Charging Car – 1, 2 & 4 in Coke Ovens	Cabin Glasses fixed.
Coils with higher width to be given to SSM for improvement in yield	Higher width Coils being given by both SMS-I and HSM.
Pull chord switches not there in INBA conveyor belt at Blast Furnace	20 Pull Chord switches installed at INBA conveyor belt.
Dust suppression system in coke crushing unit needs repair	Repair carried out.
Track alignment for overhead cranes in Rolling Mill	Track replacement done in EF and FG bay.

- Suggestions scheme – **Srujani** – under which employees are awarded for giving implementable suggestions. On implementation of the suggestion, cash award is given to the employee concerned. In 2007-08, 11,131 suggestions were received out of which 6485 were found implementable. 3465 such nos. of suggestions were implemented which generated a one-time savings of Rs. 9.06 crores and a recurring annual savings to the tune of Rs. 9.01 crores.
- Special Awards for special jobs for improvement taken up by small groups within the department.
- Quality Circles (QC) for special improvement measures / problem-solving in the department. In recent years, the Quality Circle Teams of RSP have won several awards in National QC Competitions (Table 4).

Table 4: Award winning quality circle teams of RSP

Circle Name	Departments	Title of the job
Rising Sun	Plate Mill	Minimising the failure of Mill Screw Down Motor
Sarjana	OBBP	Modification of speed transformer in Weigh Feeder
Agranee	OBBP	Eliminating adverse affect of induced voltage
Pratap	Instrumentation	Minimising the failure of temperature measuring system.
Samprisson	Public Relations	Enhancing media coverage of RSP's CSR initiatives
Quest	Coke Ovens	Improvement in blending system.
Jagannath	SP-II	Improving under grate suction for higher productivity.
Lancer	SMS-I	Elimination of sticking slag jam on converter and heat shield of VOR.

Performance Management System at Rourkela Steel Plant

RSP's Performance Management System has three main components: appraisal system, monetary incentive / reward scheme, and recognition schemes (non-monetary).

1. Appraisal System

This is used for considering employees for promotion to higher grade/ position based on their past performance and potential. Assessment is done annually by the immediate reporting officer and reviewed by an officer at a higher level on various parameters like knowledge of the job, attitude, discipline etc. On completing the minimum no. of years required as per the laid down policy, i.e. 3-4 years in the same grade, annual performance appraisal of the concerned years is taken into consideration

for promoting employees to the next higher grade/ position. As such, performance of the employee during the preceding years is critical to his promotion to higher level.

2. Monetary Incentive / Reward Scheme

This is based on achievement of group / departmental performance targets. At present, the following schemes are in vogue:

- Incentive Scheme for achieving Rated Capacity.
- The Reward Scheme for achieving APP Targets.
- Cost Capacity Reward Scheme for achieving higher level of production at reduced cost and as per desired techno-economic factors.
- Quality based Motivational Scheme for achieving quality norms.
- Daily Production Incentive Scheme for achieving daily production targets.

Total earning potential under these schemes is Rs. 6000/- for a senior-level employee.

3. Recognition Schemes (Non-monetary):

- Special award for excellence in group performance given annually.
- Employees are nominated for prestigious national awards like Shram Awards and Vishwakarma Rashtriya Puruskar.
- 20 employees are given Best Shift Incharge and Leadership award.
- 6 executives are conferred with Jawahar award.
- 85 employees are conferred with NVKP Award
- Appreciation through letters / felicitation in meetings at departmental level.
- Centralised Database of Award winners created.
- Community lunch organised for all employees of the department for achievements such as best monthly production, record dispatches and zero accident.

Another important mechanism adopted at RSP for motivating employees at senior levels is by empowering them and bestowing upon them leadership roles. Empowering suitable and deserving employees and giving them higher responsibilities serves as an invaluable tool of appreciation and recognition by the management. To achieve this, at RSP under the Direct Reporting System of attendance recording, approximately half of the 2000-odd shift in charges is the senior non-executive employees. As in charge of the shift they have been assigned key responsibility of their areas which includes man management.

Assessing the satisfaction level of the employees

Internal Customer Satisfaction Index (ICSI) survey analysis is conducted once in every quarter. Over 2% of the manpower is surveyed each month and the results are analysed quarterly. The questionnaire pertains to nine aspects of services / issues related to Personnel Department as well as Quality of Life both in the Plant as well as the Township. The overall satisfaction level during last quarter (Jan-Mar) of 2007-08 was a healthy 82.69% as against 80.24% in the preceding quarter.

From time to time, external agencies are also commissioned to study the satisfaction level of employees. One such survey was conducted by International Management Institute, New Delhi in 2006 which revealed that "RSP stands out from the rest of the Steel Plants as having the highest rated organisational climate." One of the key aspects of organizational climate was the commitment of the employees and RSP emerged as having the most highly committed workforce. As part of the SAIL family, RSP also participated in Great Place to Work survey conducted in 2007.

Apart from the above-mentioned employees' satisfaction measurement tools, the analysis of employees' grievances also gives a good assessment of the satisfaction level in the organisation. RSP is having structured, easily assessable and transparent grievance machinery which can be used by employees to air their grievances on various service matters or amenities.

CONCLUSION

It can be inferred that Rourkela Steel Plant has been able to create and sustain a peaceful work environment where every employee can contribute to the plant in

assigned area of work with full freedom and dignity and without fear. This also reveals a deep commitment of the management to create an ambience in the organisation that would give employees the things they value most as human beings. RSP has not only been able to bring the turnaround by adapting different HR practices but also successful in sustaining it for attaining the organisational objectives. One of the key lessons provided by the experience of RSP concerns the sustainability of success and the need for continuous change management because no organisation can afford to simply maintain the status quo in this unpredictable and dynamic environment. The past success does not guarantee success in future, and continuous innovation is needed, because staying at the top is more difficult than reaching there. So, it can be concluded that organisations which value and prioritise their people can overcome all types of adverse situations and survive in the long run as compared to organisations which treat people only as a resource to earn profits thereby facing the threat of early extinction.

REFERENCES

Intra Circular Office Memos of RSP.

Khandwalla, P. N. (1991) 'Humane Turnarounds', *Vikalpa* 16(2): 3-16.

Madhavi, C.V. (2002) 'Change and turbulence at SAIL- A Story of Fluctuating Fortunes Response Books: A division of Sage Publications.

Official documents of HRD Department of RSP.

Rourkela Steel Plant – Under the Magnifying Glass, published by HRD department of RSP.

Rourkela Steel Plant- A Panorama, published by HRD department of RSP.

Rourkela Steel Plant- Regenerating Strength with People, published by HRD department of RSP.

Schein, E. H. (1992) 'Organizational Culture and Leadership'. 2nd Ed San Francisco: Jossey-Bass.

Turnaround Story: Viewed 24th August 2007.

Websites

<http://www.sail.co.in/>

<http://www.sail.co.in/pnu.php?tag=rourkela>

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Effect of Price Perception and Store Image on Retail Purchase Intent: A Study on Reliance Fresh in Bhubaneswar.

***Dr Uma Kanta Dash**

ABSTRACT

Consumers have a number of enduring perceptions or images that are particularly relevant to the study of consumer behavior. These images may be product or service image, Perceived price, perceived quality, store image, brand image etc. A Store's perceived image is influenced by the store name and the quality of merchandise it carries. Where as the price perception of a retail store is influenced by price discounts, brand name and a brand's perceived value. Perceived price and store image in turn positively influence purchase intentions. High knowledge respondents are more influenced by brand name and store image while low knowledge respondents are more influenced by price discounts. The present study reveals the effects of price perception and store image on purchase intentions of shoppers of Reliance Fresh Stores in Bhubaneswar.

Key Terms: Perceived Price, Perceived Quality, Store Image, Brand Image, Purchase Intent.

Introduction:

In the words of Peter Drucker, business exists to satisfy customers. The existence of the customer is the integral to the existence of the retailer. The ability to understand consumers is the key for developing a successful retail strategy. An integral part of understanding customers is identifying customers for the product or service, i.e the target segment, and the demographics of this segment, their needs and buying behavior. While understanding consumer behavior completely may not really be possible, it is in the best interest of the retailer to know its consumers. Retailers need to know the various influences that lead to a purchase. It is not just the store where the purchase was made, rather the whole range of internal and external influences.

In India, retailers and the retail formats are still evolving. Ten years ago, if a consumer wanted to buy a soap, his only option was the local bania or the Sahakari Bhandar or the Fair Price Shops run by the government. Today he can still buy the bar of soap from the same places, but he also has an option of going to a Food World, Big Bazaar, Food Land, an Appollo Pharmacy or from the neighborhood store. Where will he buy? What are the reasons for his choosing one store over the other? Therefore it is very important to explore the effects of price and various non price factors on retail purchase intentions.

Theoretical Background:

Unique Customer Perception (UCP)

Marketing as a special domain is dynamic which. Involves frequent change. Such changes are associated with many environmental factors. An effective marketer always try to establish a "Unique Selling Proposition"(USP) for its goods and services by identifying the customer's need. If the needs are wrongly identified then even the USP's which are unique to the product would not serve the purpose. In such situation "Unique Customer Perception" (UCP) plays a vital role. USP identifies a product/ service from its competitors while UCP is the perception or picture a customer develops from all types of promotional inputs from the company about their product or service. It is often seen that some brands do extremely well compared to other brands having the same resources. The reason for the brands not to do well is probably the communications which does not reflect the customer's perception. So it is not the USP but UCP that plays an important role. This has lead to the concept - "Customer Perception is the Rule and not Customer Satisfaction". Remember that a customer

always buys a product or service with a lot of expectations which he has derived from the promotional inputs of the company or other sources including word- of- mouth. So a customer would be satisfied when Performance is equal to Expectation while would not be satisfied when Performance does not match with Expectations. Now this expectation is what has been derived from perception. Perception is not good or bad, right or wrong, it is just the way someone judges an experience based on their value system of what they believe should happen. Since people are unique, each of their perceptions are unique .On the other hand each situation is a “point of contact” with an employee that will tell the customer a “truth” about the company’s idea of customer service. Each situation will create expectations’ of what the next experience will probably be like. Companies spend considerable amount on advertisement and in this world of competitive Companies spend considerable amount on advertisement and in this world of competitive advantage advertisement has to be repetitive in nature. Brand hammering results in brand recall which is a costly affair. So companies need to understand the Unique Customer Perception to facilitate advertising and Sales Promotional (ASP) efforts towards a better bargain. The cost incurred on advertisement is huge i.e. if we refer to the 5 M’s of advertising, Money is a budgetary constrain for an ideal advertising campaign. Thus UCP has to be rightly analyzed for better results by the company to match performance and expectation.

About the Company:

Reliance Fresh is the convenience store format which forms part of the retail business of Reliance Industries of India which is headed by Mukesh Ambani. On 28th October , 2006 unveiled reliance fresh, the first of its multi format retail business. A typical Reliance Fresh store is approximately 3000-4000 square. feet and caters to a catchment area of 2-3 km. The company already has in excess of 560 reliance fresh outlets across the country. In Orissa , it has 14 outlets. These stores sell fresh fruits and vegetables, staples, groceries, fresh juice bars , dairy products, apparels, electronics, etc in a world class ambience.

The RIL Chairman and Managing Director, Mr Mukesh Ambani, envisages extending the presence of Reliance Fresh Stores to 784 cities and 6,000 towns in India. The company aims to open such agri-retail outlets for every 3,000 families in India, i.e. one store within a radius of every 2 km. These retail outlets of Reliance will be a mix of company-owned and franchisees said Mr. K. S. Venugopal, Head, AP Operations

and CE, Customer Solutions of Reliance Retail. Important Indian cities would have larger versions of the retail store than the tier II cities of India.

Till January 2007, the number of Reliance Fresh Stores rose to forty. Reliance Fresh Stores are located in the India cities of New Delhi, Mumbai, Chennai, Hyderabad, Jaipur, Chandigarh and Ludhiana. At this rate of expansion of Reliance Fresh Stores, the company is expected to realize its agri-retail dream by 2011. This venture is expected to create direct employment to five lakh young Indians and indirect job opportunities to around one million people. The main USP of Reliance Fresh Stores is to provide international class shopping environment with latest technology, a seamless supply chain management coupled with value added services and ultimate customer satisfaction.

Literature Review:

In order to purchase a product, consumers must have access to it. The purpose of a retailer is to provide this access. As such it is very important to find out what consumers actually want from a retailer in order to deliver value. Convenience is the primary concern for most consumers, with people increasingly being “leisure time poor” and keen to trade off shopping time for leisure time (Seiders, Berry, and Gresham, 2000). Consequently, convenience has driven just about every innovation in retailing such as supermarkets, department stores, shopping malls the web and the self-scanning kiosks in pursuit of providing customer convenience. As noted by Seiders, Berry, and Gresham (2000), from a customer’s perspective convenience means speed and ease in acquiring a product and consists of four elements such as access, search, possession and transaction.

Many retailers acknowledge the importance of store environment as a tool for market differentiation (Levy and Weitz 1995). Store environment, the physical surroundings of a store, is made up of many elements, including music, lighting, layout, directional signage and human elements, and can also be divided into external environment and internal environment (that is, exterior and interior of a store). The effects of store environmental elements could be complex. While many of these elements influence shoppers’ behavior through their effects on shoppers’ emotion, cognition and physiological state, some of these elements could elicit more direct response from shoppers with very little impact on their thinking, feeling or body comfort . Despite

numerous studies on store environment, their findings are not enough to provide a detailed understanding of the store environmental effects.

Store environment also influences various stages of shoppers' cognitive process inside a store, including attention, perception, categorization and information processing. For example, it has been shown that perceived waiting time varies with the valence of music and consumers' categorization of a restaurant as a fast food outlet depends largely on the external appearance of the store (Hui, Chebat and Chebat 1997; Ward, Bitner and Barnes 1992). The influence of store environment on these cognitive stages would subsequently affect evaluations of the store, its merchandise and service, and hence on the shopping behaviors or outcomes (Hui et al. 1997; Ward et al. 1992). Furthermore, store environment may influence these evaluations directly by providing consumers with a peripheral cue or a tangible evidence for assessing the service and merchandise quality of a store, or by transfer of meanings from the environment (Parasuraman, Zeithaml and Berry 1988; Bitner 1992).

Although previous research suggests that lowering the search costs for price information

increases consumer welfare (e.g., Brynjolfsson and Smith, 2000) and that more transparent deal patterns allow consumers to reduce shopping expenditure over time (Krishna, 1994a), little is known about how consumers actually incorporate such information in their shopping decisions and if different levels of price disclosure affect consumers' decisions differently.

Objectives of the Study:

1. To evaluate various interior factors driving the genders towards Reliance Fresh Stores.
2. To analyze whether the occupation of the customers have an impact on their visit to Reliance Fresh store.
3. To understand the respondents perception on "price-quality" and its relationship with their income.

Hypothesis: The study is based on the following hypothesis :

1. There is no significant relationship between the store's interior variables and the gender's purchase attraction towards Reliance Fresh Stores.
2. Occupation of the respondents does not a significant impact on visit of Reliance Fresh Stores.
3. Customers of higher income range have a stronger perception for purchase of high quality products.

Research Methodology: The study is mainly exploratory in nature which aims at understanding the factors driving a customer towards a purchase decision in a Reliance Fresh Store. There is a large body of literature which has studied the effects of a complex set of store environmental elements on customer purchase intent. Despite of numerous studies there is no enough findings to provide a detailed understanding of the store environmental effects. After a preliminary survey of two Reliance Fresh Stores, it was found that Merchandise Mix, Service, Ambiance, Convenient Pricing Options and Store convenience are the common criteria to drive a customer's purchase intention. All the above factors are classified into price and non price categories. The present study is intended to measure the relative impact of major price and non price elements on retail purchase behavior. A structured questionnaire was used for the study which was administered personally by the researcher from seven Reliance Fresh Stores.. A pilot test of 25 respondents was carried out to know the reliability of the questionnaire. The questionnaire was consisting of a series of close ended questions and Likert Scale was used to gauge the reaction of the customers. The sampling technique used was quota sampling controlled by age of the variable in order to reflect the general population. 200 useable questionnaires were considered for the study. The sample consists of 58% male and 42% female respondents. The age slab was segmented as less than 25 years, 26-36 years, 37-47 years, 48-58 years, 59 years and above. Chi square test, Ranking method and percentages were used for data analysis.

Analysis & Interpretation:

Table No:1 Details regarding the profile of the Respondents

Factors	Classification	No of Respondents	Percentage
Sex	Male	116	58
	Female	84	42
Age	Below 25 Yrs	41	20.5
	26-36 Yrs	58	29
	37-47Yrs	40	20
	48-58Yrs	28	14
	Above 58 Yrs	33	16.5
Marital Status	Married	115	57.5
	Unmarried	85	42.5
Educational Qualification	Under Graduate	45	22.5
	Graduate	92	46
	Post Graduate	63	31.5
Occupation	Professional	52	26
	Business	48	24
	Employee	64	32
	Housewife	36	18
Family Income(per month)	Below 15,000	40	20
	15,000 to 25,000	66	33
	25,000-35,000	52	26
	35,000-50,000	28	14
	Above 50,000	14	07
Family Size	2 members	58	29
	3 to 4 members	102	51
	Above 4 members	40	20

Source: Questionnaire

Inference: Regarding the personal profile of the respondents the above table shows that 29% are within the age group of 26-36 years, 46% are graduates , 31.5 % are post graduates, 33% are within the income range of Rs.15,000 to Rs.25,000 per month and 51% have 3 to 4 members in their family.

Chi Square Test:

Chi-Square is symbolically written as χ^2 is a statistical measure used in the context of sampling analysis for comparing variance to a theoretical variable. As a non parametric test, it can be used to determine if categorical data shows dependency or the two

classifications are independent. It can also be used to make comparisons between theoretical population and actual data when categories are used. Thus chi-square test is applicable in large number of problems. We test chi square by the following formula:

$$\chi^2 = \sum \frac{(O - E)^2}{E}$$

χ^2 = Pearson's cumulative test statistic, which asymptotically approaches a χ^2 distribution.

O_i = an observed frequency;

E_i = an expected (theoretical) frequency, asserted by the null hypothesis;

n = the number of cells in the table.

Association of Difference Between Interior Factors and Attraction Towards Reliance Fresh Stores.

Null Hypothesis: There is no significant relationship between the store's interior variables and the gender's purchase attraction towards Reliance Fresh Stores.

Observed Frequency:

Gender	Interior Factors			Gender		
	Spacious Outlet	Better Hospitality	Attractive Materials	Spacious Outlet	Better Hospitality	Attractive Materials
Male	35	28	22	34.2	26.6	22.6
Female	24	18	17	24.7	19.3	16.3
Total	59	46	39	56	200	

Expected Frequency:

(O) Observed Frequency	(E) Expected Frequency	(O _{ij} -E _{ij})	(O _{ij} -E _{ij}) ² /E _{ij}
35	34.2	0.8	.018
28	26.6	1.4	.073
22	22.6	-0.6	.019
31	32.4	-1.4	.060
24	24.7	-0.7	.019
18	19.3	-1.3	.087
17	16.3	-1.3	.103
25	23.5	1.5	.095
Calculated Value			0.474

The table value of χ^2 at 3 degree of freedom at 5 percent level of significance is 7.815. Since the calculated value of chi square is less than the tabulated value of chi square, we accept the null hypothesis, i.e there is no significant relationship between the store's interior variables and the gender's purchase attraction towards Reliance Fresh Stores. But it is a result of chance and therefore can be ignored.

Association of difference between occupation and the customer visit to Reliance Fresh Stores.

Null Hypothesis: There is no significant relationship between customer occupation and their visit to Reliance Fresh Stores.

Observed Frequency:

Occupation	Timing of Visit			
	Morning	Lunch hour	Afternoon	Evening
Professional	10.4	8.06	11.9	21.5
Business	9.6	7.4	11.04	19.9
Employee	12.8	9.9	14.7	26.5
Housewife	7.2	5.5	8.2	15.4

Expected Frequency:

(O) Observed Frequency	(E) Expected Frequency	(Oij-Eij)	(Oij-Eij) ² /Eij
06	10.4	-4.4	1.86
11	8.06	2.94	1.07
13	11.9	1.1	0.10
22	21.5	0.5	0.011
11	9.6	1.4	0.204
09	7.4	Occupation 1.6	0.345
13	11.04	1.96	0.347
15	19.9	Professional -4.9	10.4
16	12.8	Business -2.2	9.6
06	9.9	Employee -3.9	12.8
10	14.7	Housewife -4.9	7.2
32	26.5		1.536
07	7.2		5.5
05	5.5		11.9
10	8.2		11.04
14	15.4		14.7
	Calculated Value		8.2
			10.694

The table value of χ^2 at 9 degree of freedom at 5 percent level of significance is 16.919. Since the calculated value of chi square is less than the table value of chi square, we accept the null hypothesis, i.e there is no significant relationship between customer occupation and their visit to Reliance Fresh Stores. But it is a result of chance and therefore can be ignored.

Association of difference between the income range of customers and their perception for purchase of high quality products.

Null Hypothesis: There is no significant relationship between customer’s income level and their perception for purchase of high quality products.

Observed Frequency:

Family Income (per month)	Price-Quality Perception			Total
	High price-High quality	Low price – High quality	Low price – low quality	
Below 15,000	14	14	12	40
15,000 to 25,000	28	32	06	66
25,000-35,000	26	21	05	52
35,000-50,000	18	07	03	28
Above 50,000	10	04	00	14
Total	96	77	27	200

Expected Frequency:

Family Income (per month)	Price-Quality Perception		
	High price-High quality	Low price –High quality	Low price – Low quality
Below 15,000	19.2	15.4	5.4
15,000 to 25,000	31.66	25.41	8.91
25,000-35,000	24.96	20.02	7.02
35,000-50,000	13.44	10.78	3.78
Above 50,000	6.72	5.39	1.89

The table value of χ^2 at 8 degree of freedom at 5 percent level of significance is 15.507. Since the calculated value of chi square is greater than the table value of chi square, we reject the null hypothesis. That means there is a significant relationship between customer's income level and their perception for purchase of high quality products.

Ranking Method: By using ranking method we compare two or more objects and make choices among them. Weighted average for each object is calculated to assess respondents relative judgment against other similar objects and make choices among them. The formula for weighted average = $\frac{(A \times B)}{A}$

Where A = Assigned weights

B = Number of respondents

(O) Observed Frequency	(E) Expected Frequency	(Oij-Eij)
14	19.2	-5.2
14	15.4	-1.4
12	6.6	5.4
28	31.66	-3.66
32	25.41	6.59
06	8.91	-2.91
26	24.96	1.04
21	20.02	0.98
09	7.92	-2.02
18	13.44	4.56
A	07	10.78
	03	3.78
	10	6.72
	00	1.89
Calculated Value		

Ranking method was used to know the relative preference of respondents to different organized retail stores for the purchase of food items. From the primary source it was found that Reliance Fresh was given maximum preference followed by Food Bazar.

Major Findings:

- There is no significant relationship between the store's interior variables and the gender's purchase attraction towards Reliance Fresh Stores.
- There is no significant relationship between customer occupation and their visit to Reliance Fresh Stores.
- There is a significant relationship between customer's income level and their perception for purchase of high quality products.
- Reliance Fresh stores were given maximum preference for the purchase of food items followed by Food Bazar.

Recommendations and conclusion: Since it is observed that the difference in income ranges has a strong bearing on purchase intention from an organized retail store like Reliance Fresh, the company should offer more "value for money" items to attract customers. The company should establish mutually beneficial relationship with local farmers and suppliers to stock maximum food items in the forms of private labels. This can provide wider price ranges so as to cater to the needs of both middle and high income class to do shopping. Various pricing elements such as free gifts, discounts, Combo offers with uncompromised quality products can attract more and more customers towards these formats. Even though it is found that there is insignificant relationship between the store's interior variables and the gender's purchase attraction, yet it is out of chance. Company should take care of store atmospherics to create its unique self identity to attract customers and stimulate their purchase intentions.

From the present study and discussion above, it can be concluded that with the spread of globalization, more job opportunities will be created for both the male and female members of the society which will increase family income and average family spending

on food and non food items. The growing dissatisfaction with the existing kirana retail formats can be an opportunity for the growth of organized retail stores. Reliance Fresh as the first choice of customers have enough scope to tap these opportunities.

References:

1. Green, R.T and I.C.M Cunningham 1975, "Feminine Role Perception and Family Purchasing Decisions," Journal of Marketing Research,12,pp.325-332.
2. Johnson M (2000), Retail market in India, Advertising and Marketing, pp 154-155
3. Kothari C.R (2008), Research Methodology, 2nd Revised Edition, New Age International Publishers, pp 236-242
4. Das Gopal & Kumar Rohit Vishal (2009), " Impact of Store Amenities On Buyer Behaviour: A study on Convenience Goods Buyers In Organised Retail Sector In India," Indian Journal of Marketing, Vol: XXXIX, No: 9,pp.40-48
5. K. Jyothsna Priyadarsini & D.R.Goodwin(2009), " Brand Evaluation and Purchase Intention: The Impact of COO of Luxury Cars on Indian Metro Customers," The Icfai Journal of Brand Management, Vol: VI, No: 3&4, pp. 86-96
6. Michael Levy, Barton A. Weitz & Ajay Pandit (2008), Retailing Management, 6th Edition, Tata McGraw Hill Publishing Company, pp.571-590
7. <http://www.financialexpress.com/news/reliance-opens-a-fresh-chapter-in-retail/183607/>
8. <http://ekikrat.in/Reliance-Fresh>
9. <http://www.reliancefresh.info/>

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ENSURING INFORMATION SECURITY IN THE NEW ERA OF BANKING : AN INDIAN SCENARIO

*Dr. K.K.Patra

**Mr. Bibhudendu Panda

ABSTRACT

The study investigates the challenges that Indian banking sector faces in ensuring information security. India's banking sector is growing at a fast pace. It has become one of the most preferred banking destinations in the world because of the better banking systems. The basic business of a bank is to borrow funds cheap and to lend it dear. The implementation of core banking systems has proven to be a big boon in providing anywhere access to banking services and the treatment of a customer as that of a bank and not as a constituent of a specific branch. With the interlinking of ATMs, the customer has been further transformed into constituent of the financial sector rather than a bank. Information is kept confidential in the bank and making it available to authorized users at the appropriate time. The study has also developed a model which will ensure proper security of information processing, which in turn is highly dependent on technology.

KEY WORDS: Information, security, banking, challenges, security, computerization.

INTRODUCTION

Information Security is a combination of various factors. It involves technology, people and policy.”

Sameer Kapoor, Executive Director, PricewaterhouseCoopers Pvt. Ltd.

Banking system occupies an important place in a nation's economy. A banking institution is indispensable in a modern society. It plays a pivotal role in economic development of a country and forms the core of the money market in an advanced country. The Indian Banking Industry has undergone tremendous growth since nationalization of 14 banks in the year 1969. It was the result of two successive Committees on Computerization (Rangarajan Committee) that set the tone for computerization in India. While the first committee drew the blue print in 1983-84 for the mechanization and computerization in banking industry, the second committee set up in 1989 paved the way for integrated use of telecommunications and computers for applying technological breakthroughs in banking sector. Banks operate in a highly regulated environment, and are keenly aware that their customers are protective of their personal data and are prone to change providers if they don't feel confident about the security of their information. Other factors driving the need for security are negative media exposure in the wake of data breaches and the need to demonstrate rigorous data protection standards (*Dhupar, 2010*).

LITERATURE REVIEW

In the era of globalization, multinational organizations worldwide have adopted globalization as their first strategic choice. The recent advancement in technology has facilitated globalization and there has been a marked improvement particularly in the areas of maintenance, storage, availability and transfer of data. Now the world has been earmarked as global village. The evolution of technology in Indian banking was as follows:

1960: Mechanized banking introduced

1970: Introduction of computer based banking industry

1980: Introduction of computer-linked communication based banking.

Banks are providing services through internet. From computerization to networking to ATMs and now E-banking, banks have moved up the value chain. Now the scope is available for a customer to extract all the facilities at a single click of the mouse. Once the branch offices of a bank are interconnected through satellite links, there would be no physical identify for any branch.

A Reserve Bank of India (RBI) working group has released a set of guidelines for Indian banks to improve their information security and reduce cyber fraud. The [working group](#) was set up in April 2010 as part of the RBI governor's Annual Monetary Policy Statement 2010-11, which recommended enhancing guidelines for information technology governance and information security. The [report](#) warned that technology risks are growing for financial institutions in India. According to the report, "Technology risks not only have a direct impact on a bank as operational risks but can also exacerbate other risks like credit risks and market risks. Given the increasing reliance of customers on electronic delivery channels to conduct transactions, any security related issues have the potential to undermine public confidence in the use of e-banking channels and lead to reputation risks to the banks. Inadequate technology implementation can also induce strategic risk in terms of strategic decision making based on inaccurate data/information. Compliance risk is also an outcome in the event of non-adherence to any regulatory or legal requirements arising out of the use of IT". A proposed security model is given below:



The working group issued over 60 recommendations for banks to improve their information security. Among those recommendations, the report says that banks should create a separate information security function and appoint a chief information security officer to oversee that function. Banks should put in place an information

security policy and review it annually. Also, banks should maintain an inventory of IT assets and conduct periodic risk assessments to identify IT vulnerabilities. In addition, banks should conduct thorough background checks before hiring employees and should keep personnel up to date on information security through training and education. The working group stressed that the recommendations should not be viewed as a “one-size-fits-all” approach. Implementation of these recommendations needs to be based on the nature and scope of the bank’s activities and its technology environment, the report said.

The Reserve Bank of India had set-up a high level committee in 1992 which was headed by Mr. A. Ghosh, the then Dy. Governor Reserve Bank of India to inquire into various aspects relating to frauds malpractice in banks. The committee had noticed/ observed three major causes for perpetration of fraud as given hereunder:

1. Laxity in observance of the laid down system and procedures by operational and supervising staff.
2. Over confidence reposed in the clients who indulged in breach of trust.
3. Unscrupulous clients by taking advantages of the laxity in observance of established, time tested safeguards also committed frauds.

In order to have uniformity in reporting cases of frauds, RBI considered the question of classification of bank frauds on the basis of the provisions of the IPC. Given below are the Provisions and their Remedial measures that can be taken.

1. Cheating (Section 415, IPC):

Remedial Measures: The preventive measures in respect of the cheating can be concentrated on cross-checking regarding identity, genuineness, verification of particulars, etc. in respect of various instruments as well as persons involved in encashment or dealing with the property of the bank.

2. Criminal misappropriation of property (Section 403 IPC):

Remedial Measure: Criminal misappropriation of property, presuppose the custody or control of funds or property, so subjected, with that of the person committing such frauds. Preventive measures, for this class of fraud should be taken at the level

the custody or control of the funds or property of the bank generally vests. Such a measure should be sufficient, it is extended to these persons who are actually handling or having actual custody or control of the fund or movable properties of the bank.

3. Criminal breach of trust (Section 405, IPC):

Remedial Measure: Care should be taken from the initial step when a person comes to the bank. Care needs to be taken at the time of recruitment in bank as well.

4. Forgery (Section 463, IPC):

Remedial Measure: Both the prevention and detection of frauds through forgery are important for a bank. Forgery of signatures is the most frequent fraud in banking business. The bank should take special care when the instrument has been presented either bearer or order; in case a bank pays forged instrument he would be liable for the loss to the genuine costumer.

5. Falsification of accounts (Section 477A):

Remedial Measure: Proper diligence is required while filling of forms and accounts. The accounts should be rechecked on daily basis.

6. Theft (Section 378, IPC):

Remedial Measures: Encashment of stolen' cheque can be prevented if the bank clearly specify the age, sex and two visible identify action marks on the body of the person traveler's cheques on the back of the cheque leaf. This will help the paying bank to easily identify the cheque holder. Theft from lockers and safe deposit vaults are not easy to commit because the master-key remains with the banker and the individual key of the locker is handed over to the costumer with due acknowledgement.

8. Offences relating to currency notes and banks notes (Section 489 A-489E, IPC):

These sections provide for the protection of currency-notes and bank notes from forgery. The offences under section are:

- a) Counterfeiting currency notes or banks.
- b) Selling, buying or using as genuine, forged or counterfeit currency notes or bank notes. Knowing the same to be forged or counterfeit.
- c) Possession of forged or counterfeit currency notes or bank-notes, knowing or counterfeit and intending to use the same as genuine.
- d) Making or passing instruments or materials for forging or counterfeiting currency notes or banks.
- e) Making or using documents resembling currency-notes or bank notes.

Most of the above provisions are Cognizable Offences under Section 2(c) of the Code of Criminal Procedure, 1973.

METHODOLOGY

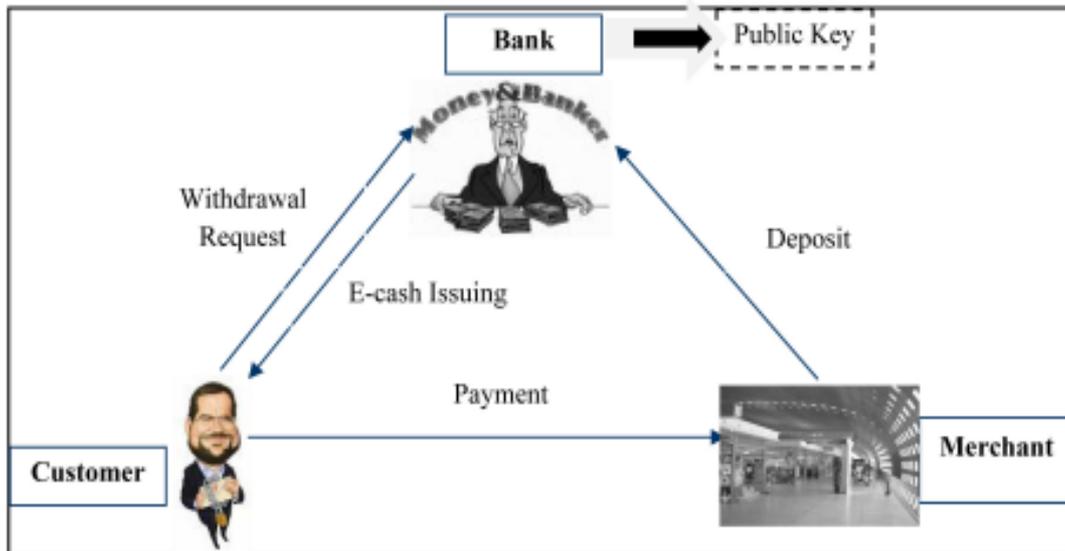
The electronic payment system is one of the most important applications in electronic commerce. There are two types of system for digital cash, namely, the online system and offline system. In online case, the customer needs to interact with a bank (via modem or network) to conduct a transaction with a third party. But in case of offline system, the customer can conduct a transaction without having to directly involve a bank. In such a scenario, the services need to be authenticated and secure. Non-repudiation is one of the vital aspects where the requester and the service providers can be prohibited of denying the action made on the transaction made between them. Signature scheme is most widely used mechanism for the purpose. But for untraceability property we require a mechanism where, the requester needs to get the authentication in the message from the signer without really exposing the message content to the signer. For the aforesaid purpose, blind signature scheme was introduced by David Chaum in 1982, where the content of a message is blinded before sending it to the signer for signature. The signer signs on the blind message using his/her private key and anyone can verify the legitimacy of the signature using signer's public key. This procedure can be well explained with an example taken from the familiar world of paper documents. The paper analogous of a blind signature can be implemented with carbon paper lined envelopes. Putting a signature on the outside of such an envelope leaves a carbon copy of the signature on a slip of paper within the envelope. Any BSS must satisfy the following properties.

1. *Correctness*: the correctness of the signature of a message signed through the signature scheme can be checked by anyone using the signer's public key.
2. *Authenticity*: a valid signature implies that the signer deliberately signed the associated message.
3. *Unforgeability*: only the signer can give a valid signature for the associated message.
4. *Non-reusability*: the signature of a document can not be used on another document.
5. *Non-repudiation*: the signer can not deny having signed a document that has valid signature.
6. *Integrity*: ensure the contents have not been modified.
7. *Blindness*: the content of the message should be blind to the signer; the signer of the blind signature does not see the content of the message.
8. *Untraceability*: the signer of the blind signature is unable to link the message-signature pair even when the signature has been revealed to the public.

Blind signature scheme suggested by Mohammed et al. is based on ElGamal, has been proved by Hwang et al. that it does not satisfy correctness property. In this scheme when the requester obtained the blinded signature from the signer, he/she could not unblind it to acquire the desired signature. Based on Discrete Logarithm Problem (DLP) a blind signature scheme has been suggested by Camenisch et al., which is simpler than the scheme proposed by Lee et al.

In this paper, we propose a new BSS based on variation of Nyberg-Rueppel Signature Scheme using Elliptic Curve Discrete Logarithm Problem (ECDLP). Subsequently the variation of NRSS using ECDLP has been explained and then the proposed BSS scheme is discussed using a communication illustration between a requester and signer followed by the correctness of the proposed BSS has been made and offline digital cash is explained where proposed BSS is being used. Finally, last paragraph describes the concluding remarks.

MODEL:



RESULTS: BLIND SIGNATURE SCHEME

Digital signature scheme based on discrete logarithms uses a random number k which is different in each signature. This valuable property makes two signatures on the same message different, which is not true in case of RSA based signature scheme. The underlying principles of the new blind signature scheme are explained using a banking example where the requester needs a document to be signed by the signer without disclosing contents of the document. The different phases of the signature scheme are explained below.

A. Initially Signer should do the following

1. Signer will select d_B randomly in the interval of $[0, n-1]$ as secret key and compute Q as public key. Where $Q = d_B G$.
2. Select \tilde{k} randomly and computes $\tilde{R} = \tilde{k}G$, $\tilde{R} = (\tilde{x}_r, \tilde{y}_r)$
 $\tilde{r} = \tilde{x}_r \text{ mod } n$
3. It will send \tilde{R} to requester.

B. After receiving the above value Requester should request for signature by computing the values as follows:

1. Customer select two integer x_R and β randomly.
2. Compute the following value

$$r = x_R \text{ mod } n$$

3. Compute the blind message as

$$\tilde{m} = r\beta^{-1} \text{ mod } n$$

4. Sends blind messages \tilde{m} to Bank for signature

C. Signer should do the followings

1. The Signer receives blind message from requester and treats it as any ordinary message since the Signer does not recognize the blinding. The Signer computes \tilde{s} as

2. After computing the blind messages \tilde{s} , Signer sends it to Requester as signature (\tilde{s}, R) where $R = (x_R, y_R)$

D. Requester should do the followings to recover the real signature after receiving the blinded signature (\tilde{s}, R) from the Signer:

1. Compute the s as follows
2. Now the complete signature pair of the message m is: (r, s) and R which are known to Requester but not to the Signer.
3. Verification by the Requester or any one can be done by the following equation

$$G = u_1Q + u_2R$$

$$\text{where } u_1 = rw \text{ mod } n$$

$$u_2 = w \text{ mod } n$$

$$w = s^{-1} \text{ mod } n$$

$$\begin{aligned} s &= \tilde{s}\beta + \alpha m \pmod n \\ &= (\tilde{m}d_B + \tilde{k})\beta + \alpha m \pmod n \\ &= (r\beta^{-1}d_B + \tilde{k})\beta + \alpha m \pmod n \\ &= r d_B + \tilde{k}\beta + \alpha m \pmod n \end{aligned}$$

Finally,

$$s = r d_B + \tilde{k}\beta + \alpha m$$

Now multiplying both sides of (10) by generator G we have

$$\begin{aligned} sG &= r d_B G + \tilde{k}\beta G + \alpha m G \\ \Rightarrow sG &= rQ + (\tilde{R}\beta + \alpha m G) \\ \Rightarrow sG &= rQ + R \end{aligned}$$

Correctness of proposed scheme

The correctness of our scheme can be easily verified as follows. The verifier has only digital signature (r,s,R) of message for verification. The customer extracts the signature by using above equation, therefore

PROPOSITION: OFFLINE DIGITAL CASH

The following procedure explained an untraceable off-line electronic payment protocol assuming that the consumer wants to purchase some goods from the merchant and that both have bank accounts with Bank:

A Withdrawal Request

1. Customer creates an electronic coin and blinds it.
2. Customer sends the blinded coin to the Bank with a withdrawal request
3. Bank digitally signs the blinded coin.
4. Bank sends the signed-blinded coin to customer and debits his/her account.
5. Customer un-blinds the signed coin.

B. Payment

1. Customer gives the coin to the Merchant.
2. Merchant verifies the Bank's digital signature.
3. Merchant gives customer the merchandise.

C. Deposit

1. Merchant sends coin to the Bank.
2. Bank verifies its own digital signature for authentication.
3. Bank verifies that coin has not already been spent using cut and choose technique.
4. Bank enters the coin in the spent-coin database.
5. Bank credits Merchant's account.

CONCLUSION

Banks are the engines that drive the operations in the financial sector, which is vital for the economy. Banks in India started to take full advantage of IT in the early nineties. In the last 20 years or so there have been systematic improvement and up-gradation of IT infrastructure for modernizing business operations. It is the high-speed real time processing, high volume processing and analytical capabilities that have helped in operational efficiency. Reserve Bank of India has taken up an important role as facilitator of payment system developments. Also RBI is the catalysts for e- and m-commerce (through e-government: e- and m-payment), stimulating further migration of cash (bank notes and coins) to digital payment instruments, increasing the efficiency of payment systems, Governance of e-commerce - customer protection, security of transactions, privacy of records and oversight of payment systems. This paper suggests a secure and efficient blind signature scheme based on the Elliptic Curve Discrete Logarithm Problem. The scheme utilizes fewer number bits due to inherent property of elliptic curve as compared to its public key counterparts such as RSA. The proposed BSS is suitably illustrated using a offline digital cash. Indian banking, which was operating in a highly comfortable and protected environment till the beginning of 1990s, has been pushed into the choppy waters of intense competition. With the nationalization of banks in 1969, they also have emerged as engines for social change.

REFERENCES

1. Camenisch, J. L., Piveteau, J. M. and Stadler, M. A. (1994). Blind Signatures Based on the Discrete Logarithm Problem, *Advances in Cryptology-EUROCRYPT'94*, Rump session, 428-432.
2. Chaum, D. (1998). Blind signatures for untraceable payment, *Advances in cryptology, CRYPTO'82, Lect. Notes Computer Science*, Springer-Verlag, 199-203.
3. Chaum, D. (1988). Blind Signature Systems, U.S. Patent 4,759,063, 19 July.
4. Chaum, D., Fiat, A. and Naor, M. (1990). Untraceable electronic cash, *Advances in cryptology, CRYPTO'RX, Lect. Notes Computer Science*, Springer-Verlag, 319-327.
5. Chun-I Fan, Chen, W.K., and Yeh, Y. S. (2000). Randomization enhanced Chaum's blind signature scheme, *Computer Communications*, Vol. 23, 1677-1680.
6. Dhupar, Vishal (2010). Ensuring Information Security in the New Era of Banking, *Banking Frontiers*, Vol. 9, No. 6, October, 36-37.
7. Lee, C. C., Hwang, M. S. and Yang, W. P. (2005). A New Blind Signature based on the Discrete Logarithm Problem for Untraceability, *Applied Mathematics and Computation*, 837-841.
8. Miller, V. (1986). Uses of Elliptic Curve in Cryptography, *Advances in Cryptography, Proceedings of Crypto'85, Lectures notes on Computer Sciences*, 218, Springer-Verlag, 417-426.
9. Mohammed, E., Emarah, A. E., and Shennawy, K. El. (2000). A blind signatures scheme based on ElGamal signature, in *IEEE/AFCEA EUROCOMM 2000 Information Systems for security*.
10. Shao, Zuhua (2000). Improved user efficient blind signatures, *Electronics Letters*, Vol. 36, No. 16, 1372-1374.

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INTERNATIONAL FINANCIAL REPORTING STANDARDS (IFRS) - CHALLENGES AND NEED FOR INDIAN INC.

***Ms. Puspallata Mahapatra**

ABSTRACT

The paper attempted to identify the challenges and need for Indian Inc. on the eve of convergence between GAAP and IFRS. The IFRS intends to make International Financial Reporting comparison in an easier way. GAAP has its own accounting systems which has adopted to Indian conditions.

The convergence will bent down the difference between the two and lead to an unified accounting reporting system acceptable all over the world. The transition to IFRS in a phase is a smart movement. The transaction cost will much lower because the large companies will bear the initial cost of learning. Indian accounting firms and smaller companies will not benefit from the learning in the first of transition to IFRS. But it difficult to estimate the market capitalization or fundamental value of small companies. There are some difference between IFRS and GAAP and the similarities between the two continue to grow. The convergence of IFRS & GAAP will ultimately lead to a smart accounting system.

IFRS is an universally accepted high quality accounting standard which can make world's capital market efficient and functional .It may lower the cost of capital for business and increases global economy growth which in turn will create more jobs and lower cost of goods and services.

I. INTRODUCTION:

India today has become an international economic force. Indian companies has surpassed in several sectors of the industry that includes, ITES, software,

pharmaceutical, auto spare part to name a few. And to stay as a leader in the international market India opted the changes it need to interface Indian stakeholders', the international stakeholders' and comply with the financial reporting in a language that is understandable to all of them. In response to the need several Indian companies have already been providing their financial statements as per US GAAP and/or IFRS on voluntary basis. But, however this is becoming more of a necessity then just being a best practice.

In the coming years, critical decisions will need to be made regarding the use of global accounting standards in India. Market participants will be called upon to determine whether achieving a uniform set of high-quality global accounting standards is feasible, what sort of investments would be required to achieve that outcome, and whether it is a desirable goal in the first place. This dialogue will be critical to the future of financial reporting and of fundamental importance to the long-term strength and stability of the global capital markets.

Performance measures, based on Indian GAAP may need revisiting as it may change in IFRS adoption by fair amount on account of valuation aspect. Expectation of investor and market will also be required to be of paramount importance to manage in the adoption of process.

The International Financial Reporting Standards the "IFRS" aims to make international financial reporting comparisons as easy as possible because each country has its own set of accounting rules. For example, U.S. GAAP is different from Canadian GAAP and both are far apart from India GAAP. Synchronizing accounting standards across the globe is an ongoing process in the international accounting community.

A set of international accounting and reporting standards that will help to harmonize company financial information, improve the transparency of accounting, and ensure that investors receive more accurate and consistent reports were attempted by International Accounting Standards Board (IASB) between 1973 and 2001 and are designated as "International Accounting Standards". In 2001 IASB, adopted the first iteration of International Financial Reporting Standards (IFRS) to

serve as a possible pathway for establishing uniform global accounting standards. Since then, IFRS has been adopted or become accepted in over 100 countries.

II. CONVERGENCE OF ACCOUNTING STANDARDS WITH IFRS

In general, convergence of Accounting Standards (AS) with International Financial Reporting Standards (IFRS) means to achieve harmony with IFRS. The term convergence can be considered as to design and maintain national accounting standards in a way that financial statements prepared in accordance with national AS are in convergence with IFRS. IAS I require financial statements to comply with all requirements of IFRS. This does not mean that IFRS should be adopted word by word. The local standard setters can add disclosure requirements or can remove some requirements which do not create non-compliance with IFRS. Thus, convergence with IFRS means adoption of IFRS with exceptions wherever necessary.

International Financial Reporting Standards (IFRS) are principles-based Standards, Interpretations and the Framework (1989) adopted by the International Accounting Standards Board (IASB)

Many of the standards forming part of IFRS are known by the older name of **International Accounting Standards (IAS)**. IAS were issued between 1973 and 2001 by the Board of the International Accounting Standards Committee (IASC). On 1 April 2001, the new IASB took over from the IASC the responsibility for setting International Accounting Standards. During its first meeting the new Board adopted existing IAS and SICs. The IASB has continued to develop standards calling the new standards IFRS.

II.1 ADOPTION OR CONVERGENCE ?

The two terms though used interchangeably but there is a faint but important difference.

Convergence- is harmonization of national GAAP with IFRS through design and maintenance of accounting standards in a way that financial statements prepared with national accounting standards are in compliance with IFRS.

Either convergence or adoptions, both has important implication and will require synchronization of both internal and external reporting keeping in view that it can have a deep and wide impact on overall aspects of the organization as such mentioned below;

- **Affecting investor relations;**
- **HR rewards**
- **Debts covenants**
- **Performance measures**
- **Investors and market expectations**

III. GLOBAL FOOT PRINTS OF IFRS

In last few years, because of emergence of the Global Economy and growing integration of world's capital markets, financial reporting have undergone significant changes. Many market participants are considering the question of whether it is possible or desirable to move toward a single ***“globally accepted financial reporting standard”*** so that these entities' can speak a uniform global “language” for financial reporting.

The proponents of this idea argue that a uniform set of global accounting standards, supported by strong corporate governance, independent standard-setting and a sound regulatory framework, could benefit investors and businesses alike. Others suggest that trying to establish a uniform set of global standards would run the risk of overlooking the unique economic, political, cultural, legal and regulatory realities that exist in different nations and regions across the globe.

Over the years the use of IFRS has emerged as widely used and accepted standard in the world with more than 12,000 companies and over 100 countries

accepting and mandating its implementation. India aims to be joining IRFS club starting FY 2011.

III.1 ADOPTION OF IFRS WORLD WIDE:

More than 100 countries already have adopted country-neutral International Financial Reporting Standards (IFRS); another 50 — including Canada, China, Japan and India — are expected to do so by 2012. The United States recognizes both GAAP and IFRS, but the Financial Accounting Standards Board (FASB) and International Accounting Standards Board (IASB) also continue to work diligently and cooperatively on convergence of the two.

Why the push toward global standards? When companies, including manufacturers, prepare financial reports using different standards, it's more burdensome for investors and creditors. Convergence would allow them to compare financial statements without adjusting for national accounting differences.

In addition, universal high-quality accounting standards can make the world's capital markets more efficient. That may lower the cost of capital for businesses and encourage global economic growth, which, in turn, may create jobs and lower the cost of goods and services

IFRS are used in many parts of the world, including the [European Union](#), Hong Kong, Australia, [Malaysia](#), [Pakistan](#), [GCC countries](#), Russia, South Africa, [Singapore](#) and [Turkey](#). As of 27 August 2008, more than 113 countries around the world, including all of Europe, currently require or permit IFRS reporting. Approximately 85 of those countries require IFRS reporting for all domestic, listed companies. In addition, the US is also gearing towards IFRS. The SEC in the US is slowly but progressively shifting from requiring only US GAAP to accepting IFRS and will most likely accept IFRS standards in the long-term.

III.2 IFRS—WORLD SCENARIO

III.3 ADOPTION OF IFRS YEAR WISE

IFRS Adoption	Year
Australia	2005
Israel	2005
New Zealand	2005
European Union	2005
Brazil	2010
Canada	2011
India	2011
Russia	Undecided
IFRS Convergence	
China	2007
Japan	2011
United States	2013
India	2014]

DOMESTIC LISTED COMPANIES

IFRS required for all domestic listed companies
IFRS permitted for domestic listed companies
IFRS required for some domestic listed companies
IFRS not permitted for domestic listed companies
TOTAL

IV. IFRS Governing Body

°% IFRS are issued by IASB

°% A private sector organisation

°% Chairman – Sir David Tweedie (formally head of the UK standard setter)

°% 14 members (12 full time)

°% The organisation as a whole has wide expertise and geographical representation

IASB are involved in several significant joint projects with FASB in the US

V. IFRS IN INDIA

On January 22, 2010 the Ministry of Corporate Affairs issued the road map for transition to IFRS. It is clear that India has deferred transition to IFRS by a year. In the first phase, companies included in Nifty 50 or BSE Sensex, and companies whose securities are listed on stock exchanges outside India and all other companies having net worth of Rs 1,000 crore will prepare and present financial statements using Indian Accounting Standards converged with IFRS. According to the press note issued by the government, those companies will convert their first balance sheet as at April 1, 2011, applying accounting standards convergent with IFRS if the accounting year ends on March 31. This implies that the transition date will be April 1, 2011. According to the earlier plan, the transition date was fixed at April 1, 2010.

The Institute of Chartered Accountants of India (ICAI) has announced that IFRS will be mandatory in India for financial statements for the periods beginning on or after 1 April 2011. This will be done by revising existing accounting standards to make them compatible with IFRS.

Reserve Bank of India has stated that financial statements of banks need to be IFRS-compliant for periods beginning on or after 1 April 2011...

The ICAI has also stated that IFRS will be applied to companies above Rs.1000 crore from April 2011. Phase wise applicability details for different companies in India:

Phase 1: Opening balance sheet as at 1 April 2011*

- i. Companies which are part of NSE Index – Nifty 50
- ii. Companies which are part of BSE Sensex – BSE 30
 - a. Companies whose shares or other securities are listed on a stock exchange outside India
 - b. Companies, whether listed or not, having net worth of more than INR1,000 crore

Phase 2: Opening balance sheet as at 1 April 2012*

Companies not covered in phase 1 and having net worth exceeding INR 500 crore

Phase 3: Opening balance sheet as at 1 April 2014*

Listed companies not covered in the earlier phases

If the financial year of a company commences at a date other than 1 April, then it shall prepare its opening balance sheet at the commencement of immediately following financial year.

V.2 THE TABLE BELOW SET OUT THE APPLICABILITY OF FIRST SET OF STANDARDS TO SPECIFIED CLASS OF COMPANIES IN PHASE MANNER:

I	Companies in Nifty 50 Companies in Sensex 30 Companies shares or other securities listed on stock exchanges outside India
	Companies (whether listed or not) having net worth excess of Rs 1,000 crores
II	Companies (whether listed or not) having net worth excess of Rs 500 crores but less than Rs. 1, 000 c
III	All listed companies with net worth less than Rs 500 crores

The above enlisted specified class of companies will prepare an opening balance sheet in accordance with IFRS converged standards as of effective date and will follow the IFRS converged standards from the respective effective date as mentioned in above table.

- On March 31, 2010, the Ministry of Corporate Affairs issued the final road map of Convergence with IFRS for Banking and Insurance Companies also, which were excluded from the earlier notification issued on 22nd January 2010.

IN BRIEF:

- All insurance companies will converge with Converged Indian accounting standards effective April 1, 2012.
- All scheduled commercial banks will converge effective April 1, 2013. A phased approach of convergence is prescribed for urban co-operative Banks.
- NBFC which are part of Nifty - 50, Sensex 30 and NBFCs (listed or unlisted) having net worth of more than 1,000 crores will converge effective April 1, 2013. All other listed NBFC's and other NBFCs having a net worth in excess of Rs 500 crores would converge effective April 1, 2014. Unlisted NBFCs having a net worth of less than Rs 500 crores are not mandatorily required to converge but may voluntarily decide to converge.
- There by, now the entire road map for Convergence with IFRS is conclusively
- Thus, going by aforesaid directives if, corporate India needs to publish IFRS financial statements for 2011-2012, this would require comparatives for 2010-11, i.e., an opening balance sheet is required April 1, 2010. In a nutshell, this means that the real work for corporate India starts now.

V.3 APPLICABILITY OF IFRS IN INDIA

According to the Concept Paper on Convergence with IFRS in India, issued by ICAI in October 2007, the IFRS should be applicable to Public Interest Entities (PIE). PIE has been defined to include:

- All listed companies
- All banking companies
- All financial institution
- All scheduled commercial banks
- All insurance companies and
- All NBFC

VI. WHAT WILL CHANGE BY ADOPTING IFRS:

There are several areas where impact of IFRS exists for entities such as presentation of accounts, accounting policies and procedures, language of legal document, the way the entity will look at its business model and conduct business. At the transition stage itself company has to give careful thought and planning for its accounting policy and procedure because it in turn will affect financial position of company and its operation.

Any kind of change results in somewhat different conditions. Similarly convergence to IFRS, which is indeed a complex process will, brings about a change inter-alia in the following:

- Change in existing GAAP
- Changes in numbers reported
- Changes to the accounting policies
- Changes in procedures adopted by the company
- Changes in financial reporting systems and
- Improving the IFRS skills for company personnel.

VI.1 IMPORTANT MILESTONES IN INTERNATIONAL ACCOUNTING STANDARDS BOARD

ABOUT IASC and IASB

IASC was founded in 1973.

IASC issued IAS 1 in 1975.

IASC issued IAS 41 in 2001.

IASB was formed in 2001 to replace IASC.

IASB issued IFRS 1 in 2003.

IASB issued IFRS 8 in 2006

IASB issued 8 IFRSs during 2003 - 2006

8 IFRSs are current as of November 2008

IFRIC issued 16 Interpretations also.

15 IFRIC Interpretations are current as of November 2008

(IFRIC: International Financial Reporting Interpretations Committee)

VII BENEFITS OF ADOPTING IFRS

The convergence with IFRS entails benefit to the following:

a. The Investors:- The investor will be benefited in as the way accounting information made available to them will be more reliable, relevant, timely and most importantly the information will be comparable across different legal framework. It will develop better understanding and confidence among the investors.

b. The Professional:- The professional, both in practice and in employment will get benefits as they will be able to provide their services in various part of the world, as few years after everybody will follow the same reporting standards.

c. The Corporate world:- The Indian corporate reputation and relationship with international finance community will elevate because of achievement of higher level of consistency between reporting structure and requirements; better access to international markets; improving confidence among the international investors. The international comparability will also get improve strengthening the industrial and capital markets in the country.

VII.1 EXPECTED BENEFITS

It is generally expected that IFRS adoption worldwide will be beneficial to investors and other users of financial statements, by reducing the costs of comparing alternative investments and increasing the quality of information.¹ Companies are also expected to benefit, as investors will be more willing to provide financing. However, [Ray J. Ball](#) has expressed some skepticism of the overall cost of the international standard; he argues that the enforcement of the standards could be lax, and the regional differences in accounting could become obscured behind a label. He also expressed concerns about the fair value emphasis of IFRS and the influence of accountants from non-common regions, where losses have been recognized in a less timely manner

- (1) More efficient formulation of domestic accounting standards, improvement of their international image, and enhancement of the global rankings and international competitiveness of our local capital markets;
- (2) Better comparability between the financial statements of local and foreign companies;
- (3) No need for restatement of financial statements when local companies wish to issue overseas securities, resulting in reduction in the cost of raising capital overseas;

VII.2 BENEFITS OF ADOPTING IFRS

➤ Improved quality of reporting	➤ A globally accepted set of principles-based standards may offer more room for accounting treatments that are consistently applied and possibly better reflect the true substance of transactions and underlying business performance
➤ Improved comparability	➤ As use of IFRS becomes more widespread, the new standards will increase comparability for investment analysis and performance measurement
➤ Reduced accounting complexity	➤ One of the criticisms often leveled at Local or US GAAP is that the accounting rules are perceived to be complex and sometimes difficult to apply in practice. IFRS offers the opportunity to reduce complexity and risk of errors
➤ Process and cost efficiencies	➤ The number of countries across the world where IFRS is a recognized reporting framework continues to grow. This brings opportunities to generate process and cost efficiencies in financial reporting. It will also potentially open up opportunities to standardize, simplify and centralize financial reporting processes and functions
➤ Cost of capital	➤ It is widely expected that the use of a single global standard will enhance the efficiency of capital allocation on a global basis and help reduce the cost of capital

VIII. CHALLENGES TO BE FACED BY ADOPTING IFRS

Generally accepted accounting principles(GAAP) and International financing reporting standards(IFRS) are the two most commonly used accounting standards in the world for publicly traded companies(the U.S still uses GAAP and most of the rest world uses IFRS).The purpose of both accounting standards are to provide a reader (investor) with a clear and accurate accounting picture of how a company is doing.

Theoretically,these standards are supposed to give transparency to the reader.However in the wrong hands,it sometimes results in the opposite result;the reader gains a false impressions of how the company is actually doing.

Despite several benefits as may be looked out by the different people, there will be several challenges that will be faced on the way of IFRS convergence.

1. The first and far most would be from the differences between Indian GAAP and IFRS. The differences are wide and very deep rooted, to say a few -Plant Property and Equipment (PPE) accounting, Financial Instruments accounting, Investment accounting, Business combination, Share based payment, current and non-current classification of asset and liabilities, presentation of financial statements, all are not dealt under Indian GAAP.
2. Convergence is not just one time technical steps but will impose practical challenges of significant business and regulatory matters like structuring of ESOP schemes, training of employees, tax planning, modification of IT system, compliance with debt covenants.
3. Educating investors to understand the changed financial reporting's under IFRS. There are not many trained resources for IFRS, Also IFRS training in an organization will be huge task and –not many people are aware and have understanding of IFRS._
4. Challenges on account of differences in various conceptual, practical, legal and implementation methods. The Indian GAAP keeps abreast the local conditions, including the legal and economic environment. For example AS 29 does not specifically deal with constructive obligation whereas IAS 37 deals specifically with this in the context of creation of a provision. The effect of this is that in some cases provisions will be required to be recognized at an early stage.

The regulatory and legal requirements in India will pose a challenge unless the same is been addressed by respective regulatory. For example the present direct tax laws do not address any tax implications likely to arise from IFRS transitions. Complexities of the introduction of concepts such as present value and fair value measurement, recognition and the extent of disclosure required under IFRS. For example, a few listed below though not all:

5. IFRS does not provide for the compromise, merger and amalgamation through court schemes, effect of all such schemes are recognized through income statement.
6. Treatment of expenses like premium payable on redemption of debentures, discount allowed on issue of debentures, underwriting commission paid on issue of debentures etc is different. This would bring a change in income statement leading to enormous confusion and complexities.
7. Equity definition changed, this would result impact on tax benefits where interest is treated as receiving a dividend.
8. Financial statements more complex under IFRS and thereby would pose challenge making useful decision.
9. The law and regulations of a country is a land specific and so of India too.

Therefore, to overcome the challenges, a Core Group has been constituted by Indian regulatory to identify inconsistencies between IFRS and as listed below,

- Companies Act
- SEBI Regulations
- Banking Laws & Regulations and
- Insurance Laws & Regulations

A draft Schedule VI consistence with IFRS has been formulated and sent to Ministry of Corporate Affairs, most probable to get passed under Companies Amendment Bill 2009. Formats of financial statements under Schedule III of Banking Regulations Act and Formats for financial statements for insurance entities under IRDA regulations, are also consider for revision to be in consonance with IFRS

IX. KEY DIFFERENCES BETWEEN IFRS AND GAAP

That transition has been under way for some time, but differences remain. The differences pertain to:

Balance sheets. IFRS doesn't require a specific format. Typically, assets and liabilities are presented in a current/noncurrent format, unless a liquidity presentation is more relevant and reliable. Companies that use U.S. GAAP rules may present either classified or non classified balance sheets.

Income statements. No particular format is prescribed with IFRS, but expenditures are presented in either function or nature format. With U.S. GAAP, income statements are presented in either single- or multiple-step formats, with expenditures by function.

Historical cost or valuation. U.S. GAAP allows revaluations for only certain types of financial instruments. IFRS uses historical costs, but intangible assets, property, plant and equipment, and investment property may be revalued to fair value.

Revenue recognition. IFRS requires recognition when risks, rewards and control have been transferred and revenue can be reliably measured. U.S. GAAP includes extensive guidance for specific types of transactions, though the rules are similar in principle to IFRS.

Inventories. IFRS prohibits last in, first out (LIFO). Inventory is carried at the lower of the cost (determined by first in, first out or weighted average) and net realizable value. U.S. GAAP is similar, but allows LIFO.

IX.1 COMPARISON WITH CURRENT INDIAN ACCOUNTING STANDARD WITH THE CORRESPONDING NUMBER OF RELEVANT IAS/IFRS

Indian Accounting Standard		IAS/IFRS	
AS No.	Name of Standard	IAS/IFRS No.	Name of Standard
1	Disclosures of Accounting Policies	1	Presentation of financial statements
2	Valuation of Inventories	2	Inventories
3	Cash Flow Statements	7	Statements of Cash Flows
4	Contingencies and Events Occurring after the Balance Sheet Date	10	Events after the Reporting Period
5	Net Profit or Loss for the Period, Prior Period Items and Changes in Accounting Policies	8	Accounting Policies, Changes in Accounting Estimates and Errors
6	Depreciation		No equivalent standard. Included in IAS 16
7	Constructions Contracts	11	Constructions Contracts
9	Revenue Recognition	18	Revenue
10	Accounting for Fixed Assets	16	Property, Plant and Equipment
11	The Effects of Changes in Foreign Exchange Rates	21	The Effects of Changes in Foreign Exchange Rates
12	Accounting for Government Grants	20	Accounting for Government Grants and Disclosure of Government Assistance
13	Accounting for Investments		Mainly dealt with in IAS 39
14	Accounting for Amalgamations	IFRS 3	Business Combinations
15	Employee Benefits	19	Employee Benefits
16	Borrowing Costs	23	Borrowings Costs
17	Segment Reporting	IFRS 8	Operating Segments
18	Related Party Disclosures	24	Related Party Disclosures
19	Leases	17	Leases
20	Earnings Per Share	33	Earnings Per Share
21	Consolidated Financial Statements	27	Consolidated and Separate Financial Statements
22	Accounting for Taxes for Income	12	Income Taxes
23	Accounting for Investment in Associates in Consolidated Financial Statements	28	Investments in Associates
24	Discontinuing Operations	IFRS 5	Non-current Assets Held for Sale and Discontinued Operations
25	Interim Financial Reporting	34	Interim Financial Reporting
26	Intangible Assets	38	Intangible Assets
27	Financial Reporting of Interest in Joint Ventures	31	Interest in Joint Ventures
28	Impairment of Assets	36	Impairment of Assets
29	Provisions, Contingent Liabilities and Contingent Assets	37	Provisions, Contingent Liabilities and Contingent Assets
30	Financial Instruments: Recognition and Measurement	32	Financial Instruments: Recognition and Measurement
31	Financial Instruments: Presentation	39	Financial Instruments: Presentation
32	Financial Instruments: Disclosures	IFRS 7	Financial Instruments: Disclosures

X. CONCLUSION

The press note as per the Ministry of Corporate affairs on jan.22.2010, does not clarify whether the full set of financial statements for the year 2011-12 will be prepared by applying accounting standards convergent with IFRS. The deferment of the transition may make companies happy, but it will undermine India's position. Presumably, lack of preparedness of Indian companies has led to the decision to defer the adoption of IFRS for a year. This is unfortunate that India, which boasts for its IT and accounting skills, could not prepare itself for the transition to IFRS over last four years. But that might be the ground reality. Transition in phases Companies, whether listed or not, having net worth of more than Rs 500 crore will convert their opening balance sheet as at April 1, 2013. Listed companies having net worth of Rs 500 crore or less will convert their opening balance sheet as at April 1, 2014. Un-listed companies having net worth of Rs 500 crore or less will continue to apply existing accounting standards, which might be modified from time to time. Transition to IFRS in phases is a smart move. The transition cost for smaller companies will be much lower because large companies will bear the initial cost of learning and smaller companies will not be required to reinvent the wheel. However, this will happen only if a significant number of large companies engage Indian accounting firms to provide them support in their transition to IFRS. If, most large companies, which will comply with Indian accounting standards convergent with IFRS in the first phase, choose one of the international firms.

Indian accounting firms and smaller companies will not benefit from the learning in the first phase of the transition to IFRS. It is likely that international firms will protect their learning to retain their competitive advantage. Therefore, it is for the benefit of the country that each company makes judicious choice of the accounting firm as its partner without limiting its choice to international accounting firms. Public sector companies should take the lead and the Institute of Chartered Accountants of India (ICAI) should develop a clear strategy to diffuse the learning. Size of companies The government has decided to measure the size of companies in terms of net worth. This is not the ideal unit to measure the size of a company. Net worth in the balance sheet is determined by accounting principles and methods. Therefore, it does not include the value of intangible assets. Moreover, as most assets and liabilities are

measured at historical cost, the net worth does not reflect the current value of those assets and liabilities. Market capitalization is a better measure of the size of a company. But it is difficult to estimate market capitalization or fundamental value of unlisted companies. This might be the reason that the government has decided to use 'net worth' to measure size of companies. Some companies, which are large in terms of fundamental value or which intend to attract foreign capital, might prefer to use Indian accounting standards convergent with IFRS earlier than required under the road map presented by the government. The government should provide that choice. Conclusion The government will come up with a separate road map for banking and insurance companies by February 28, 2010. Let us hope that transition in case of those companies will not be deferred further.

My personal view is if IFRS is completely adopted in India most of the company's financial statements will show lower profits than what have been under Indian GAAP. There may be the question in mind of layman stakeholder that how can the profits of a company change drastically by following different GAPP's but this is not necessarily due to faulty reporting system adopted by the companies but because of inherent IFRS GAAP differences.(Notable difference exits in IFRS fixed assets and IFRS inventory standards). Though there are just some of the differences between IFRS and U.S. GAAP, the similarities between the two continue to grow, however, the companies should consult their financial advisor as to when it should change to IFRS, When to do, and they are required to apply all effective IFRS standards retrospectively, with some limited exemptions and exceptions .They are also have to reconcile profit or loss under the last period reported under U.S. GAAP, equity at the end of that period, and equity at the start of the earliest period presented in comparatives.

REFERENCES:

Thakkar Raj (why do we need IFRS in India)

Sharma Bhubenesh (inpact of IFRS on different accounting principles)

www.sebi.gov.in

www.bseindia.com

www.nseindia.com

www.mca.gov.in

www.icaai.org

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THE MEASUREMENT OF VOLATILITY OF INDIAN STOCK MARKET DURING POST RECESSION PERIOD

***Ms.Shradhanjali Panda**

Abstract

Before the financial crisis, for some years the world financial markets were very calm. But, the crisis of late 2007 changed this. Most asset classes experienced significant pullbacks, the correlation between asset classes increased significantly and the markets have become extremely volatile. Investors begin selling off their stocks in favor of investment instruments not as largely affected by market volatility such as Treasury Bonds. This sell off causes stock prices to drop even further, causing an overall drop in the stock market. These activities create extreme volatility in the market.

Volatility is considered as the source of risk in stock market investment. Volatility is the measure of dispersion around the mean. So, this empirical study has used standard deviation (σ) on average return of securities in order to measure the volatility of the share prices and to analyze its effect. The current empirical study estimates both inter day and intra day volatility taking high and low stock market prices into consideration. Appropriate statistical tools are used to compare both in order to analyze the whole market mood. The study has taken 20 companies as sample from different sectors. The time period of the study is from 1st January, 2009 to 31st October, 2010.

INTRODUCTION

Many investors realize that the stock market is a volatile place to invest their money. The daily, quarterly and annual moves can be dramatic, but it is this volatility that also generates the market returns investors experience. There is a strong relationship between volatility and market performance. Volatility tends to decline as the stock market rises and increase as the stock market falls. When volatility increases, risk increases and returns decrease. Risk is represented by the dispersion of returns around mean. The greater the dispersion of returns around the mean, the larger the drop in the compound return. For securities, the higher the standard deviation, the greater the dispersion of returns and the higher the risk associated with the investment. As described by modern portfolio theory (MPT), volatility creates risk that is associated with the degree of dispersion of returns around the average. In other words, the greater the chance of lower-than-expected return, the riskier the investment. Another way to measure volatility is to take the average range for each period, from the low price value to the high price value. This range is then expressed as a percentage of the beginning of the period. Larger movements in price creating a higher price range result in higher volatility. Lower price ranges result in lower volatility. This paper aims at measuring the volatility of four Indian industries taking 5 companies from each sector. The time period for the study is from 1st January, 2009 to 31st October, 2010 i.e. present study focuses on recovery phase of the market after the current Global Financial Crisis.

LITERATURE REVIEW

Aggarwal *et al.* (1999) examined the events that caused large shifts in volatility in emerging markets. Both increases and decreases in the variance were identified first and then events around the period when volatility shifts occurred were identified. They found the dominance of local events in causing shifts in volatility. Volatility was high in emerging markets and shifts in volatility are related to important country specific political, social, and economic events. Mexican crisis, hyperinflation in Latin America, Marcos- Aquino conflict in Philippines and stock market scandal in India were some of the local events that caused significant shifts in 4

Time-variation in market volatility can often be explained by macroeconomic and micro structural factors (Schwert 1989a,b). Volatility in national markets is determined by world factors and part determined by local market effects, assuming that the national markets are globally linked. It is also consistent that world factors could have an increased influence on volatility with increased market integration. Bekaert and Harvey (1995) showed this using time-varying market integration parameter. Research has also shown that capital market liberalization policies too, are likely to affect volatility. It would be of interest to policy makers that the correlation between the two has been found to be positive in the case of some countries. This paper does not reexamine any of these issues. Nor does this paper seek to throw an insight into the existence of a possible relationship between such variables which capture financial and economic integration as market capitalization to GDP, country credit risk ratings.

Partha Pratim Pal (1998) conducted a study on measurement of volatility in BSE Sensex and impact of Foreign Direct Investment on it. He compared both intra day and inter day volatility using standard deviation and analyzed its cause with that of FDI in the country using Parkinson constant $k = 0.601$, which is used for the present study.

OBJECTIVE OF THE STUDY

Volatility is a measure of dispersion around the mean or average return of a security. One way to measure volatility is by using the standard deviation, which tells how tightly the price of a stock is grouped around the mean or moving average (MA). When the prices are tightly bunched together, the standard deviation is small. When the price is spread apart, the result is a relatively large standard deviation.

This paper aims at analyzing the movements of the shares of 20 sample companies. Along with it tries to measure both inter and intra day volatility of these sample companies from four different Indian sectors.

DATA

For the study the sample size is 20 companies from four different sectors. The sectors are Pharmaceuticals, Banking, Cement and IT. From each sector five companies are

taken (Annexure 1). The closing prices of the shares of the above mentioned companies are taken from the official website of National Stock Exchange i.e. www.nseindia.com. And return is calculated. So, data used for the study is secondary in nature.

TIME PERIOD OF THE STUDY

The world has just recovered from the effect of Global Financial Crisis and financial markets all over the globe are showing the sign of recovery and slowly rectifying themselves. Still the severe impact of the crisis results into volatility in the market. Though India is least suffered than other countries yet market reacted to the crisis and now it's the time of correction. As the study aims to measure the volatility of various Indian Sectors during the phase of recovery, the time period of the study is from 1st January, 2009 to 31st October, 2010

RESEARCH METHODOLOGY

Taking the closing prices of the sample company's shares, return is calculated using the formula

1. Return = (End period price – Beginning period price) / Beginning period price

To measure how much the volatility increased during that month, the following two methods of estimating inter and intra day stock market volatility is used here. These measures are suggested in a SEBI Publication (2004) on volatility by Raju and Ghosh (2004).

2. To measure the inter day volatility standard deviation is calculated using the following form

$$\sigma = \sqrt{(1/n-1) \sum (r_t - \bar{r})^2}$$

where... $r_t = \ln(I_t/I_{t-1})$
 I_t is the closing value of the stock market index at time t ,
 \ln is natural logarithm

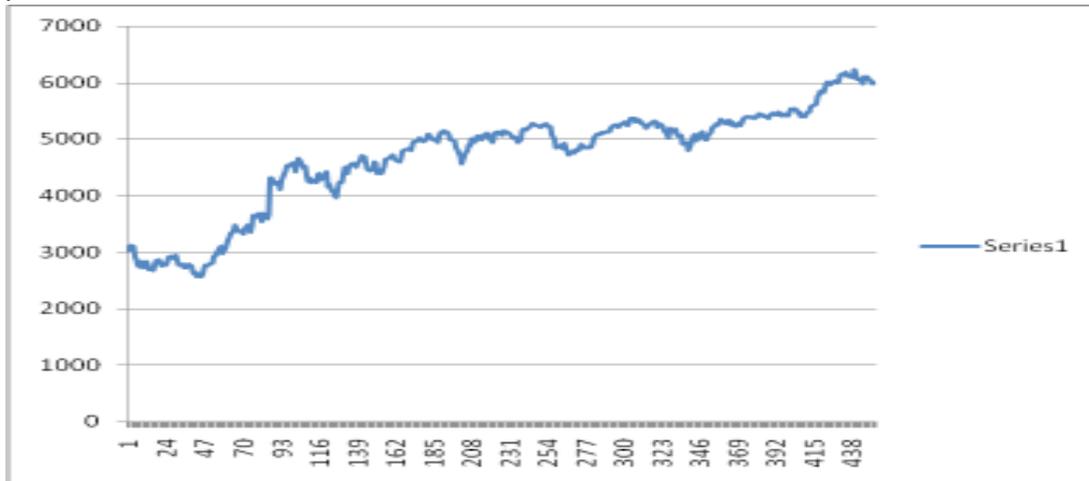
3. To measure the intra day volatility, standard deviation is calculated using the following formula

$$\sigma = k \sqrt{1/n (\log(H_t / L_t))^2}$$

where H_t and L_t are intra day high and low prices,
and following Parkinson (1980), k is taken as 0.601

FINDINGS AND INTREPRETATION

Following graph shows the movement of Nifty during the above mentioned time period.

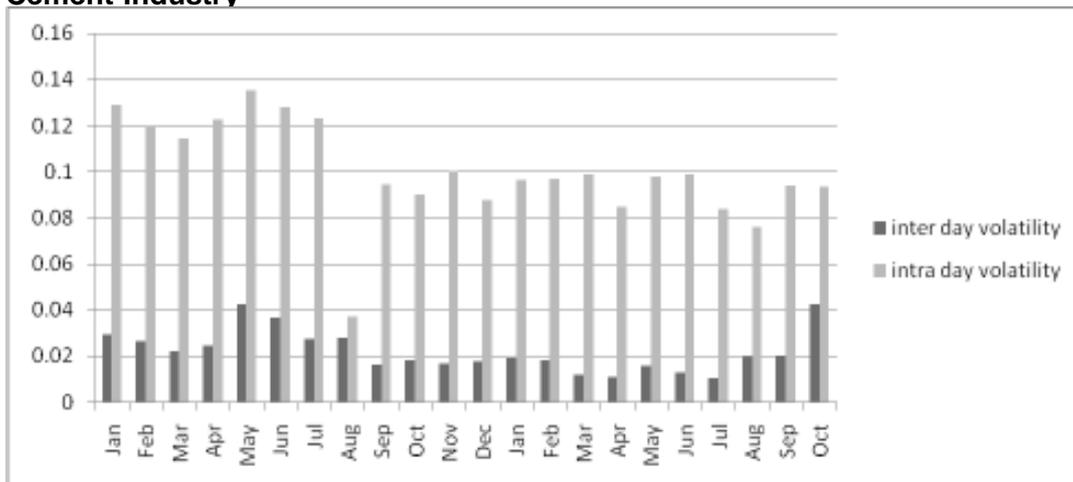


Above graph clearly shows that market is correcting itself and slowly moving in upward direction. It is the indication of economic recovering phase of the country. Just in 2 years time index has gained more than 3000 points which is a positive sign to invest in share market.

Following four graphs show inter and intra day volatility of the 4 sectors taken for the study.

Graph 2

Cement Industry

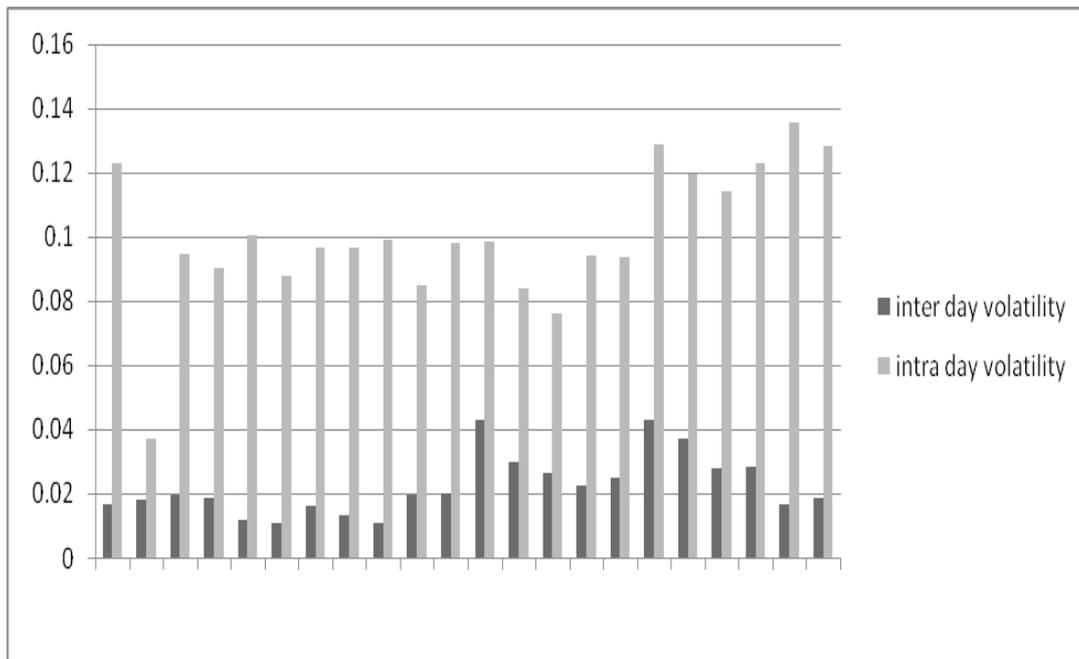


Interpretation.

In the graph of Cement Industry, it is quite clear that both the trends are following quite similar paths. Only in the month August, 2010, the trend is somewhat different. In August, 2010, the fluctuation in intraday volatility is more than that of intra day in the cement industry. It can be because of the announcement of rapid growth of infrastructure in the country. Rest of the months show quite similar trend for both inter and intra day volatility

Graph 3

Pharmaceutical Industry

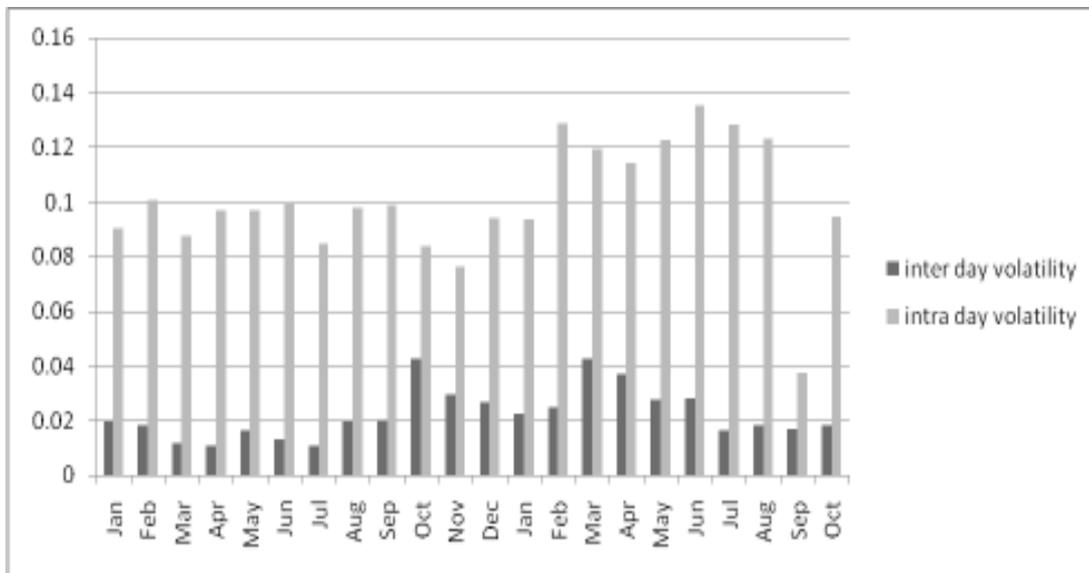


Interpretation

In the Pharmaceutical Industry graph the trend is a bit different that of the graph of cement industry. Here in the month of February, 2009 inter day volatility is comparatively more t. In the months December,2009 , Jan,2010 and May,2010 the inter day volatility is more fluctuating where in the months of Jan-1009, Sep-2010 and

Oct-2010 intra day volatility is more. One significant point to be noted here is in the months of January-2009, Feb-2009 and March -2009 markets was very fluctuating in terms of intraday volatility.

Graph 4
Banking Industry

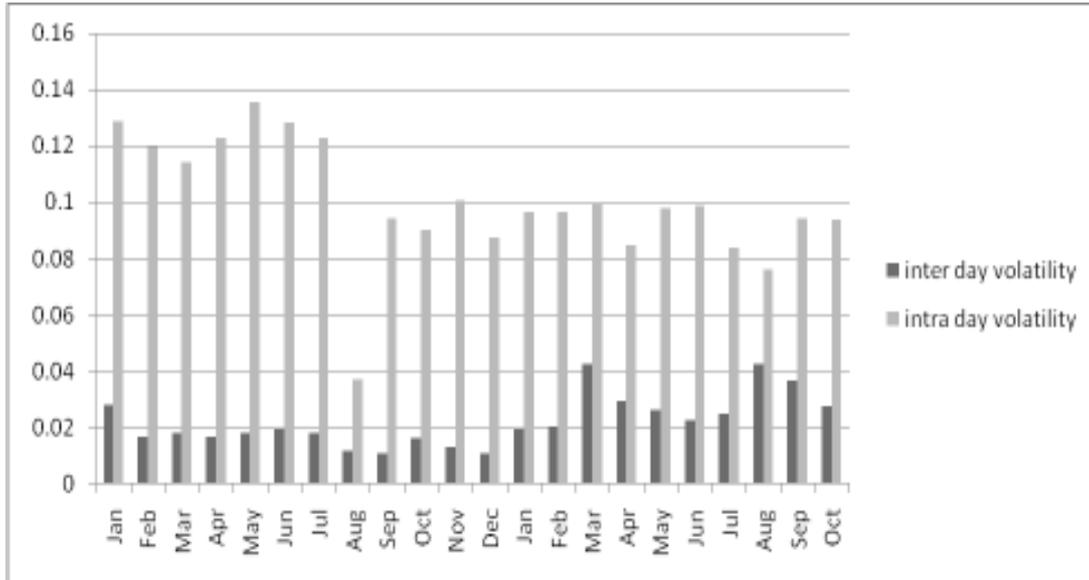


Interpretation

Banking sector shows a regular pattern in terms of both inter and intra day volatility. From the month May-2010 to Oct-2010 this sector was more volatile in terms of intraday volatility. It was the sector affected less in the crisis because of strict regulations imposed by RBI.

Graph 5

IT Industry



Interpretation

IT sector also shows a correcting pattern but towards the end volatility is more significant. Financial crisis has affected IT and Software industry more than any other industry in India. But, phase of recovery shows change in it and IT sector also showing a positive sign for the investors. Here both inter and intra day volatility is more prominent than other 3 sectors.

CONCLUSION

To measure the volatility in 4 Indian sectors i.e. Cement, Pharmaceuticals, Banking and IT the present study was conducted. The time period chosen for the study is after the financial crisis i.e. from 1st January, 2009 to 31st October, 2010. For 22 months the data was collected for 20 sample companies. Taking the data, standard deviation (σ) is calculated to know both inter and intra day volatility. Then both trends were shown in the graphs for comparison. Where Index shows a positive trend during

the phase of recovery that is after the financial crisis, there overall volatility of the 20 sample companies can be summarized as sound and regular. It also gives the message to the investors that it is perfect time for them to invest in share market. It can be safely concluded that in the recovery phase of economy, Indian market shows significant sign of improvement and volatility is somehow moderate. It can be summarized that it is safe for the investors to invest in stock market without any fear.

REFERENCE

- Aggarwal, R., Inclan, C., and Leal, R., (1999). "Volatility in Emerging Stock Markets". *Journal of Financial and Quantitative Analysis*, Vol. 34, No. 1, pp. 33- 55.
- Bekaert, Geert and Campbell, R. Harvey (1995), *Emerging Equity Market Volatility*, National Bureau of Economic Research (NBER), Working Paper 5307, pages 1 – 77
- Garman, M and M. Klass, (1980). "On the Estimation of Security Price Volatilities from Historical Data". *Journal of Business*, Vol 53, pp 67- 78.
- NSE (2001): *Indian Securities Market: A Review*, Volume IV, 2001, National Stock Exchange, Mumbai.
- Pal, Parthapratim (1998): "Foreign Portfolio Investment in Indian Equity Markets: Has the Economy Benefited?" *Economic and Political Weekly*, Vol. 33, No. 11, March 14.
- Parkinson, M "The Extreme Value Method for Estimating the Variance of the Rate of Return",
■ *Journal of Business*, Vol 53, 1980, pp 61-65
- Peters, E. E., (1996). "Chaos and Order in the Capital Markets: A New View of Cycles, Prices, and Market Volatility". John Wiley and Sons, Inc.

- Raju, M.T and Ghosh, Anirban (2004): “Stock Market Volatility – An International Comparison”-Working paper series no. 8, Securities and Exchange Board of India, April 2004.

- RBI: Handbook of Statistics on Indian Economy, Reserve Bank of India, Mumbai

- Samal, Kishor C., (1997): “Emerging Equity Market in India: Role of Foreign Institutional Investors” Economic and Political Weekly, Vol. 32, No. 42, October 18.

- SEBI: Annual Report, Various Issues, Securities and Exchange Board of India, Mumbai.

- Schwert, G. W, (1989 a). “Why Does Stock Market Volatility Change Over Time?”. The Journal of Finance, Vol. 44, No. 5, pp. 1115-1153.

- Schwert, G. W, (1989 b). “Business Cycles, Financial Crisis and Stock Volatility”. Carnegie- Rochester Conference Series on Public Policy, 31, pp 83- 123.

WEBSITES

- www.investopedia.com
- www.nseindia.com
- www.wikipedia.org

ANNEXURE 1

SI No	Industry	Company Name
1	Cement	ACC
2	Cement	Ultratech
3	Cement	Ambuja Cement
4	Cement	JK Cement
5	Cement	Binani Cement
6	Pharmaceuticals	Cipla
7	Pharmaceuticals	Glaxo
8	Pharmaceuticals	Dr Reddy
9	Pharmaceuticals	Lupin
10	Pharmaceuticals	Sun Pharma
11	Banking	Bank of India
12	Banking	ICICI Bank
13	Banking	SBI
14	Banking	HDFC bank
15	Banking	Union Bank
16	IT	TCS
17	IT	Infosys
18	IT	Wipro
19	IT	HCL Tech
20	IT	Zenith

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KNOWLEDGE MANAGEMENT PRACTICES IN SELECTED INDIAN IT COMPANIES

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Abstract

In 21st century, a new society emerged where knowledge is the primary production recourse instead of capital and labor. Dr.A.P.J Abdul Kalam.

Knowledge management (KM) is a systematic leveraging of information and expertise. KM is understanding gained through experience of know-how i.e. accumulation of facts, procedures and rules. KM helps to share and communicate with peers. It helps to respond to customers creating new markets, new products and dominating emergent technologies. The knowledge economy encompasses all jobs, companies and industries in which the knowledge and capabilities of people, rather than the capabilities of machine or technologies, determines competitive advantage. HRM is no longer simply focused on “Managing People” but it also responsible for managing capabilities of people. KM embodies the organizational process that aims at combining synergistically, the data & IT and the creative and innovative capacity of human beings. It assists the organization to foster innovation, curiosity, questioning, continuous learning & teamwork. It displays openness in Comm. It plays a vital role in maximizing environmental sensitivity and corporate adaptability as well as it locate where Knowledge -workers want to live. “Successful knowledge sharing is 90 percent cultural, 5 percent tolls and 5 percent magic. The present article makes a comparison among well-known IT companies; namely INFOSYS, Mahindra Satyam, WIPRO with regard to their KM practices. This article also identifies the benefits of KM practices. KM can be best implemented in weak organizations to identify the gray areas, to analyze it and to control it in an efficient manner. Moreover this is helpful for the companies to gain the competitive advantage.

INTRODUCTION

One of the most significant forces driving changes in education and HRD is the change of nation towards K-economy status. Developed nations are moving rapidly into this economic phase, and through technology, opportunities exist for developing nations to leapfrog into developed K-economy status. All this intensifies the global change process. Globalization itself is just one aspect of change but there are others which impact more directly the domestic economy, business and work generally. The way work is done and business operate in a K-economy area all impacted by for example, the scope and pace of change, the widespread dispersion of information and communication technologies, changing jobs and career paths, more flexible working environments, changes to the social and economic policy landscape, Continuous learning demands and the changing role of government within education systems.

The knowledge economy encompasses all jobs, companies and industries in which the knowledge and capabilities of people, rather than the capabilities of machine or technologies, determines competitive advantage. HRM is no longer simply focused on “Managing People” but it also responsible for managing capabilities of people.

“Human Capital must be contributed by the employee voluntarily, and the role of HR is to create an atmosphere in which employees can contribute their skills, ideas and energy. This is achieved by facilitating employees without controlling them.

The role of HR is knowledge facilitator. In this role, HR helps the organization to acquire and disseminate knowledge and use it to create a competitive advantage. Transforming tacit knowledge into explicit knowledge can help build employee skills, competencies and careers.

SCOPE OF KNOWLEDGE MANAGEMENT:

The knowledge workplace requires so called knowledge workers, those who are flexible, who can embrace and encourage change, and who are able to navigate information, effectively and efficiently. Knowledge workers need to be more mobile within and outside the organization. **Peter Drucker** defines Knowledge worker as

“high level employees who apply their theoretical and analytical knowledge acquired through formal education, to developing new products and services .In the knowledge based economy, corporations’ need for knowledge workers will be more than the worker’s need for employers.

The main objective is to develop both left and right brain functions and capabilities – as technical ability will need to be complemented by creativity and innovation, and more generalist staff will need to develop greater analytical capability.

Benefits of Knowledge Management

- Encouraging collaboration.
- Making ideas accessible.
- Exploring and resolving conflicts.
- Encouraging a sense of community, common interest and trust.

Cultural Inputs Required for Knowledge Management

- Networking and broad contacts externally and internally.
- Respect for individuals.
- Creativity and innovation.
- Trust
- Sharing of ideas and information.
- Sound underlying systems and procedures.
- Continuous learning and development.

KNOWLEDGE MANAGEMENT AT INFOSYS PVT.LTD

Infosys provides end-to-end workforce collaboration and knowledge management services including Knowledge Management Process Consulting, Collaboration and Knowledge Management Applications, Content Management, Document Management, Enterprise Application Integration, Security and Workflow. Infosys always introduce new methodologies and practices for knowledge-sharing. It has launched blogs and customized Wiki solutions to enable communities to collaborate across geographical, time and project boundaries. Their central knowledge repository hosts

over 75,000 knowledge assets, most of which are experiential documents derived from different facets of their business.

Infosys has won the Global MAKE Award in 2010,2009,2008,2007, 2005, 2004 and 2003. Infosys is the first Indian company to win the Global MAKE Award and enter the Global MAKE Hall of Fame. Infosys has won the Asian MAKE award 7 times in the past and is one of the five Indian companies amongst the leading Asian corporations to have won the award this year.

The 2010Asian MAKE winners have been recognized as leaders in:

- creating an enterprise knowledge-driven culture
- developing knowledge workers through senior management leadership
- innovation
- maximizing enterprise intellectual capital
- creating an enterprise collaborative knowledge sharing environment
- creating a learning organization
- delivering value based on customer/stakeholder knowledge
- transforming enterprise knowledge into shareholder/stakeholder value

TOOLS OF KNOWLEDGE MANAGEMENT IN INFOSYS

Infosys manages organization – wide knowledge using 3 centrally operated knowledge repositories- knowledge shops (k-shop); process assets database (PAD) & people knowledge map (PKM).

(a)KNOWLEDGE SHOP

Infosys built the K shop architecture on Microsoft site serve technology & all employees can access it through a web interface technology. The company encourages people to submit papers related to technology, domain, trends, culture, project experiences, internal or external literature etc. K-shop documents are available to all Infosys employees' & are segregated based on the user selected keywords & content type. It owns more than 12,600 documents.

(b)PROCESS DATABASE

This database contains the employee's experiences on projects like project plans, design documents, and test plans. Users can search the documents, based on domain, technology, project type, project code, customer name etc. This helps provide new projects with information on similar, previously executed projects & helps set quantitative goals.

(c)PROCESS KNOWLEDGE MAP

It is a directory of experts in various fields. It is an internet based system where employees can search & locate experts. It serves as the bridge between knowledge workers, the user & the provider.

INCENTIVE FOR KNOWLEDGE SHARING

This is a feature of KM at Infosys. When an Infosyan submits a document to the K-shop, experts review the document in detail. If found it acceptable, the K-shop publishes it. The reviewer and the author are rewarded with knowledge currency units (KCU) when an employee reads or uses a document from the K-shop, he/she is encouraged to give KCU, for that document based on the benefits gained from reading it. Authors can accumulate KCUs for their documents and redeem them for cash or other gifts. Thus, KCU serve two objectives, they act as a mechanism both for rewarding knowledge sharing and rating the quality of assets in the repository.

KM has helped Infosys to increase its productivity and reduce defect levels .Infosys considers knowledge to be critical to the delivery of value for customers. This has led to a strong focus on its effective exchange through various mechanisms for learning and collaboration amongst their employees, resulting in the development of robust and enduring knowledge networks across geographic, cultural and functional divisions. It is their strong conviction that such networks constitute an essential foundation for durable success and growth of Infosys.

KNOWLEDGE MANAGEMENT PRACTICES AT WIPRIO

At Wipro, KM “is a journey and not a one-off solution”. Wipro realized the criticality involved in the efficient management of intellectual capital within the company for the creation of business value and competitive advantage. The challenge therefore was to create a platform which would draw all Wipro employees together to leverage the accumulated knowledge.

Wipro's KM Vision

To be an organization where knowledge capture and sharing is the way we work, offering customers speed-to-deploy as well as innovative products and services focused on their needs, and offering employees an environment of continuous learning and productivity improvements

TOOLS OF KNOWLEDGE MANAGEMENT IN WIPRIO

(a)I-desk

It is an innovative business to employee solution which helps organization improve employee productivity and satisfaction. It is a reusable workforce collaboration framework that encompasses employee and manager's self-service, community, collaboration and knowledge mgt tools that address B2E needs.

(b)I-desk stimulates

It is a workshop for awareness, concept building, and educating key members. This provides an ideal opportunity for employees to have a forum to come together and sharing their knowledge.

(c)I-desk gauge

Wipro conducts an assessment study to perform a high level mapping of the HR & supporting process& also takes step for implementation of the required modules.

(d)I-desk actuate

It provides numerous option for maintenance and support for solution framework the channel W frame work has also helped Wipro in encouraging and facilitating collaboration and sharing leading to KM. Wipro tech continues to expand employees self service on the wave with a strong set of strategic and productivity application which are continuously implemented.

(d)Doc K Net

Comprehensive repository of all document categories to assist you in various business, client scenarios and other activities It contains a host of documents that includes proposals, whitepapers, presentations etc. with subscriptions and discussion forums. Repository aiming to provide single access to all the information, previously available on Sales Support & TechNet .Contributions to Dock Net could come from Verticals and Horizontals. Different verticals deal with different industries. Different horizontals deal with different technologies

Document Types

- Approach Papers
- Proposal Tips & Guidelines
- Methodologies & Models
- Newsletters
- Training Component
- Expertise notes
- Tool Comparison and Evaluation
- Facts
- Case Studies
- Customer Presentations
- Data Sheet
- about Wipro
- Competition

Wipro's KM Journey

Pre-implementation Phase		→	Implementation Phase		→	Post-implementation Phase
Culture Readiness Assessment			Awareness Creation & Brand Building			Sustaining the Initiative
Knowledge Audits			Knowledge Architecture			Quantifying Benefits
Identified areas for collaboration			Defining & establishing processes for KM			
Analyzed existing Infrastructure			Designing & setting up the KM Portal			Centralized Knowledge Store-house
Evaluated various technologies						

KNOWLEDGE MANAGEMENT PRACTICES AT MAHINDRA SATYAM

Mahindra Satyam has taken a more down-to-earth and pragmatic approach to KM—by designing simple solutions to the daily operational challenges of its associates (employees). Though the formal KM programme was initiated in Mahindra Satyam about two years ago, knowledge repositories did exist for the last seven years. Mahindra Satyam has won the Global MAKE Award in November 14, 2008. It took top honors for its “organizational learning,” which included its ability to:

- Create a learning organization
- Deliver value based on customer knowledge
- Transform enterprise knowledge into shareholder value

SATYAM'S Approach to KM

- Reduce **time to market**-Facilitate designing and bringing products to market quickly, predictably, and with a high degree of responsiveness
- Reduce **product-related costs**- Provide tools and knowledge to minimize expenses.
- Maximize **product value** over its lifecycle-Make accurate and consolidated information available.
- Seamless **collaborative product development**- manages the complete product definition lifecycle effectively and develops and produces innovative products.
- Faster **decision-making and transparency**— Provide management with real-time project/program visibility.

TOOLS OF KNOWLEDGE MANAGEMENT IN MAHINDRA SATYAM

Mahindra Satyam's KM programme includes Satyam Pathshala, Communities of Excellence, K-Radio and the latest K-Mobile.

(a) Satyam Pathshala

The real acquired knowledge is the one that is “experienced” by the associates. For example, associates who handle tough customer negotiations, address customer complaints effectively, close a sales-lead, architect innovative solutions, and make a winning presentation have vast knowledge reservoirs. This “experienced knowledge” is rarely documented, and even if it is documented, it rarely conveys the context or experience felt. KM has embarked on this exercise of capturing tacit knowledge by launching Satyam Pathshala.

Satyam Pathshala is a tacit knowledge-sharing programme facilitated by associates volunteering to share their knowledge/leanings with others.

The four objectives of this programme are:

1. Experiential knowledge sharing.
2. Connecting associates with experts in the field (identify intellectual peering-points among associates scattered across units and geographies).
3. Capturing tacit knowledge in documented form for further dissemination.
4. Enhancing the breadth of knowledge of various domains and technologies among customer-facing associates.

(b) Communities of excellence

With Mahindra Satyam’s diverse geographical spread, it became essential to virtually connect experts across the globe for true knowledge collaboration. To meet this objective, Communities of Excellence (COE) were created in Mahindra Satyam. COEs are virtual communities of associates who volunteer to share their knowledge and skills with fellow associates across the company globally.

These communities are tailored around various technologies, business domains and practices of Mahindra Satyam. Depending on the interest and expertise, associates can choose to be a part of one or more communities.

With COEs in place, experts, irrespective of their geographical locations, can now be traced and contacted immediately. What is unique about these communities is that

COE members are encouraged to give guidance to business managers, account managers and project managers in their customer engagement activities.

The members of COEs provide their opinions, ideas and documents to the needy associates on request. In this context, COEs provide their “expert opinion” to those executives who face the customers.

(c) Knowledge Radio Service

Serving customer engagements require knowledge collaboration across business units and geographies. While such collaborations do take place in organizations, it is often unstructured and inconsistent, causing cycle time delays in customer interactions. Customer-facing associates usually spend majority of their time chasing for responses to their queries.

KI took up the initiative to ensure that serious business should not be left to the chance occurrence of finding the required information from the right associate. With this in mind, K-Radio service was launched.

K-Radio is a successful query broadcast and response service provided under K-Window, wherein associates can post their queries online and can receive responses—all pooled at one place—from the members of the targeted COEs.

In L-Radio, the members of the targeted COEs receive requests via e-mail and their responses are metered and logged in K-Window. This ensures that knowledge sharing is not restricted to the requestor and the responder, but is also available for everyone. Based on the feedback by the associate broadcasting the query, K-Listeners (those who respond to K-Radio requests) are rewarded with K-Points. K-Points are the units of rewards for associates answering requests from their colleagues from around the world.

(d) K-Mobile

K-Mobile is a one-of-its-kind application of SMS in the field of knowledge management, with the aim of facilitating knowledge request by associates who are on the move. K-Mobile enables associates to request for critical pre-sales information/ documents through their mobile phones.

All that an associate has to do is to type an SMS/e-mail from a GSM/CDMA mobile phone. Associates can also specify their preferred delivery option as sending the information to their Mahindra Satyam mailbox or ISP or any of the nearby Mahindra Satyam printers.

Conclusion

The Knowledge Management has necessitated change in work, jobs education and life. In general new life skills are required. The consequential impact in HRM and HRD is huge in addition, there is a new employee, the “Y” generation, with very different aspirations and motivations than employees of previous generations to cater for these changing economic needs, higher education must become more market oriented and ensure that it demonstrates flexibility, equity of success, high quality & high adaptive but must also deliver the competencies required of the Knowledge Management. “E” learning is one response to this challenge, and if well designed and constructed can provide superior educational outcomes. As a result of knowledge Management systems have been developed to gather, organize, refine, and distribute knowledge throughout the business.

References

1. Alle,V(1997).The Knowledge Evolution: Building organizational intelligence.London:Butterworth-Heinemann
2. Reddy Dr.B.Rathan (2007).Knowledge Management: Himalaya Publication House.
3. www.infosys.com
4. www.kmworld.com
5. <http://www.mahindrasatyam.com/>
6. www.sharepointcommunity.com
7. www.wipro.com

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THE EMERGENCE AND EVOLUTION OF E-BANKING

***Ms. Alaka Samantaray**

ABSTRACT

Computer has eased human life. Every day new dimensions of its utility are emerging. The world is changing at a staggering rate and technology is considered to be the key driver for these changes around us. E-banking is one of the gifts to human beings by computer technology. Use of computers have automated banking process and thus has given birth to E-banking. E-banking is a fast spreading service that allows customers to use computer to access account-specific information and possibly conduct transactions from a Remote location such as at home or at the workplace. The common motivation for banks to implement e-banking is to provide a faster, easier, and more reliable service to clients, to improve the bank's competitive position and image, and to meet clients' demands. E-banking may also provide other benefits. For instance, creating new markets, and reducing operational costs, administrative costs and workforce are increasingly important aspects for the banks' competitiveness, and e-banking may improve these aspects as well. The aim of the paper is to look at the emergence and evolution of

E-Banking in India.

Keywords: , E-banking, Evolution of e-banking, Emerging challenges

INTRODUCTION

Use of internet has made every thing available at your finger tip. Lot of websites are ready to Serve you, just at your mouse click. The Internet banking is changing the banking industry and is having the major effects on banking relationships. Internet banking (or E-banking) means any user with a personal computer and a browser can get connected to his bank -s website to perform any of the virtual banking functions. In internet banking system the bank has a centralized database that is web-enabled. All the services that the bank has permitted on the internet are displayed in menu. Any service can be selected and further interaction is dictated by the nature of service.

The traditional branch model of bank is now giving place to an alternative delivery channels with ATM network. Once the branch offices of bank are interconnected through terrestrial or satellite links, there would be no physical identity for any branch. It would be a borderless entity permitting anytime, anywhere and anyhow banking. Internet banking involves use of Internet for delivery of banking products & services. It falls into four main categories, from Level 1 - minimum functionality sites that offer only access to deposit account data - to Level 4 sites - highly sophisticated offerings enabling integrated sales of additional products and access to other financial services- such as investment and insurance.

Evolution of E-banking

Electronic banking started after Second World War with the use of proprietary software and private networks. But the whole credit of making e-banking big hit goes to Internet. Internet made e-Banking trustworthy and useful. International trade has increased significantly in post world war period and with it monetary transactions between different countries have increased. Banking has facilitated trading between distant corners of the world without worrying about monetary transactions e-commerce has grown exponentially over last 30 years. Electronic Data Interchange (EDI) and Electronic Funds Transfer (EFT) were introduced in the late 1970s, to send commercial documents like purchase orders or invoices electronically.

In 1980's e-Banking got a new dimension by the use of credit cards, automated Teller Machines (ATM) and telephone banking. This was the revolutionary period in e-Banking. Now whole Commerce seems to be shouldering on these electronic systems.

E-banking in India

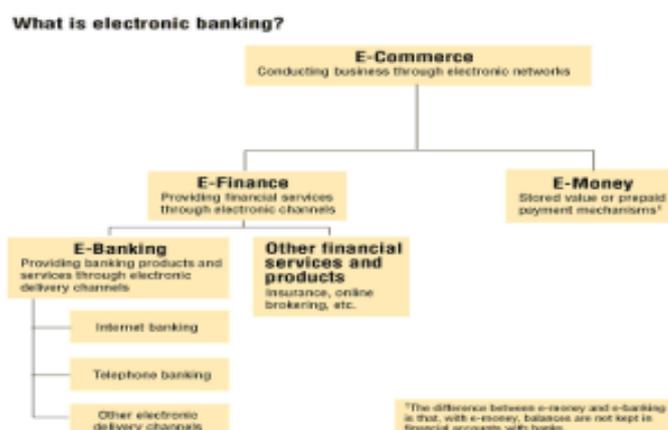
The banking industry in India is facing unprecedented competition from non-traditional banking institutions, which now offer banking and financial services over the Internet. The deregulation of the banking industry coupled with the emergence of new technologies, are enabling new competitors to enter the financial services market quickly and efficiently. Indian banks are going for the retail banking in a big way. However, much is still to be achieved. The Reserve Bank of India constituted a working group

on Internet Banking. The group divided the internet banking products in India into 3 types based on the levels of access granted. They are:

1. Information Only System: General purpose information like interest rates, branch location, bank products and their features, loan and deposit calculations are provided in the banks website. There exist facilities for downloading various types of application forms. The communication is normally done through e-mail. There is no interaction between the customer and bank's application system. No identification of the customer is done. In this system, there is no possibility of any unauthorized person getting into production system of the bank through internet.

2. Electronic Information Transfer System: The system provides customer- specific information in the form of account balances, transaction details, and statement of accounts. The information is still largely of the 'read only' format. Identification and authentication of the customer is through password. The information is fetched from the bank's application system either in batch mode or off-line. The application systems cannot directly access through the internet.

3. Fully Electronic Transactional System: This system allows bi-directional capabilities. Transactions can be submitted by the customer for online update. This system requires high degree of security and control. In this environment, web server and application systems are linked over secure infrastructure. It comprises technology covering computerization, networking and security, inter-bank payment gateway and legal infrastructure.



Why e-banking?

E-banking has certain features which give it edge over traditional banking system.

Features which make it so popular are :

Real time banking: Unlike traditional banking which suffers from time consuming procedures, eBanking provides real time banking to the customers.

people can get all the relevant information about their account instantly.

people can access all the details about their account sitting at home or at any distant location. eBanking has turned whole world into a small village.

24/7 banking: eBanking has removed the time constraint from banking. Now one can withdraw cash or get any banking facility anytime. Its not required to ask bank employees for it. Electronic system will do all of this instantly.

Banking from anywhere: Don't worry if you are sitting in Middle East country and want to check you account in New York. eBanking certainly leaves no room for blaming the distances. Smart banking is ready to servethe customer anywhere, anytime.

Safe and secure Banking: Electronically enabled banking is more immune to security and safety related problems. Password Based Encryption (PBE), Secure Socket Layer (SSL), electronic signatures and electronic tokens gives a high level of security. Any malfunctioning or any inconsistency in the account can be traced easily. This makes eBanking more reliable.

Easy Loans, Instant Loans: Use of smart cards, debit cards, credit cards has eased the people from hatred, time consuming loaning procedures. Banks provide instant loans. No need to keep cash at all, a small chip card has replaced piles of cash.

High Performance and flexibility :Banking is a high performance system satisfying it's customers for their every banking related queries and desires.

E-banking usability problems

In its widest sense, online banking consists of three main parts: the 'brochureware' marketing pages, the online application, and the transactional banking area. All can provide poor customer experiences:

- inconsistent navigation and page layouts
- on-site search engines that don't find, even when it is available
- bank-oriented jargon that is not explained
- poor feedback using interactive tools and forms
- inability to save an application and complete it later
- too many steps in transactions and no visibility of progress
- unhelpful error messages
- pages that are inaccessible to customers who are blind or disabled

These usability and accessibility barriers are not only frustrating for online customers, they are very expensive for banks. Error messages are critical for online applicants. The example shown below occurs when a user has entered amounts using commas. The user is reprimanded by an error message telling them there are problems because they used decimal places, which is not the case. Such usability problems cause users to lose confidence in the process and the bank, and many abandon the process.

EMERGING CHALLENGES

The Internet and its underlying technologies will change and transform not just banking, but all aspects of finance and commerce. It represents much more than a new distribution opportunity. It will enable nimble players to leverage their brick and mortar presence to improve customer satisfaction and gain share. It will force lethargic players who are struck with legacy cost basis, out of business-since they are unable to bring to play in the new context.

- Demand side pressure due to increasing access to low cost electronic services.
- Emergence of open standards for banking functionality.
- Growing customer awareness and need of transparency.
- Global players in the fray

- Close integration of bank services with web based E-commerce or even disintermediation of services through direct electronic payments (E- Cash).
- More convenient international transactions due to the fact that the Internet along with general deregulation trends, eliminate geographic boundaries.
- Move from one stop shopping to 'Banking Portfolio' i.e. unbundled product purchases.

Conclusion

E-business has been continuously growing as a new industry during the last decade and today is widely understood as business conducted through the internet, not only including buying and selling products, but further extended for also serving customers and collaborating with business partners (Van Hoeck, 2001). The banking industry has followed this trend in recent years, and sometimes called *e-banking* referring to all banking transactions completing through internet applications. The banking industry has been a leader in the e-business world in recent years. While the large city and urban area banks have been leading the way in the recent application and development of *e-banking*, many small and local community banks are catching up in this trend and becoming more interested in the e-banking services to gain competitive edges in the marketplace. E-banking has the potential to transform the banking business as it significantly lowers transaction and delivery costs. It is widely recognised that online banking provides more revenue per customer and costs less per transaction than any other channel, including phone banking. Banks aiming to profit the most from the increase in online banking volumes should consider the usability and accessibility of all aspects of their site to welcome them.

REFERENCES

- Stamoulis, D.S. (2000) 'How banks fit in an internet commerce business activities model', *Journal of Internet Banking and Commerce*, Vol. 5, No. 1.
- Stoneman, P. (2001) 'Rationale for online banking starts to shift', *American Banker*, 12 March, Vol. 6A.
- Wade, W. (2003) 'Prevailing view on e-banking: it's not about profit', *American Banker*, Vol. 168, No. 30, p. 11.

- New issues and challenges facing e-banking in rural areas* 353, Durkin, M. and Bennett, H. (1999) 'Employee commitment in retail banking; identifying and exploring hidden dangers',
- Wolfe, D. (2004) 'E-banking for the masses? Differing expectations', *American Banker*, Vol. 169, No. 31, p. 17.
- Beckett, A. (2000) 'Strategic and marketing implications of consumer behavior in financial services', *The Services Industries Journal*, pp.191–208.
- Beckier, M.M., Flur, D.K. and Singham, S.J. (2000) 'A future for bricks and mortar', *McKinsey Quarterly*, Vol. 3, pp.78–85.
- Boss, S., McGranahan, D. and Mehta, A. (2000) 'Will the banks control online banking?', *McKinsey Quarterly*, pp.70–77.
- Boyes, G. and Stone, M. (2003) 'E-Business opportunities in financial services', *Journal of Financial Services Marketing*, Vol. 8, pp.176–189.
- Brown, A., Remenyi, D. and Bajomo, A. (2004) 'E-banking for SMEs: a case study of Fortis Bank UK', *International Journal of Electronic Business*, Vol. 2, No. 4, pp.366–382.

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EMERGING TRENDS IN CREATIVE ACCOUNTING: THE CHANGING FACE OF FINANCIAL FRAUDS

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ABSTRACT

In 21st century, the smart management mostly tries to portray the kind of lucrative financial picture of their firm they wish to convey by the use of creative accounting. The other name of creative accounting is Aggressive accounting. It is the manipulation of financial numbers, usually within the letter of the law and accounting standards, but very much against their spirit and certainly not providing the “true and fair” view of a company that accounts are supposed to.

The main purpose of this paper is to discuss about the adulteration of accounting procedures or principles in representing the inflated profit figure of a firm through creative accounting. This Paper focuses on how Creative accounting produces financial accounts that suits a particular purpose but do not really show the true and fair view. Sometimes the accountant may wish to show favorable profits (e.g. to get a bonus) at other times losses (e.g. to pay less tax). . In this article, several significant cases of accounting irregularities that resulted in landmark changes in accounting standards are reiewed.

Keywords: *Creative accounting, Earning management, Income smoothing Technique, Marketing-to-market accounting*

Introduction:

Business is an activity which is carried out with a view to earn profit. Whether a business is operating in a profit or suffering from losses can be known from its financial statements. These are the statements which explain the income, expenditure as well as the financial position of the concern. These are also known as “annual reports”. It has a great importance for the business and provides information about where a company stands and where it is headed. Thus managers try their level best to represent these figures in way to send out a positive message to their investors. The directors too, have their heavy bonuses at ventures which are relative to the kind of profits they report.

An outstanding annual report frequently influences the decision of the investors and the capital markets. Manipulation in financial statements is generally done so as to affect the possibility of fund transfer between the society, fund provider and managers. In the first to two cases (in case of funds flow between society and fund provider) this manipulation is undertaken for the sake of the firm's interest. But in case of managers, managers act against the firm to satisfy their own interest. Thus the managements mostly try to convey the kind of message they wish to convey by the use of creative accounting.

Creative accounting refers to accounting practices that may follow the literature of the rules of standard, but certainly derail from the spirit of those rules. It is also called as “**Earning management**”. The terms “innovative” or “aggressive” are also sometimes used. It usually involves the artificial increase or decrease in incomes, profits, or earnings per share figures through aggressive accounting tactics. Now a days creative accounting has been more accepted as it provides alternative treatments for solving one issue. An annual report to be called as a good and right one must comply with the IFRS stipulations and should have all material facts in the statements. The negative use of creative accounting does not exclude its positive use. It teaches how one can administrate the resources in the best possible way so as to enhance the performance. Choosing the best accounting alternative to reflect the reality and company's interest depends on creative accounting. Britain's window-dressing practice is taken as a form of creative accounting. One of the creative

accounting technique is **income smoothing technique**. It helps in reflecting a net income series having less fluctuations over a period so as to attract share holders. The multitude of use of creative accounting techniques differs with substances. Now creative accounting is being used as a fraudulent technique to manipulate the financial picture of any organization. Creative accounting represents the manipulation of accounts according to accounting regulation and law while the techniques that break the law is considered as accounting frauds. Though creative accounting use is not an illegal practice, managers use them as a ladder to represent half truth of the concern and to reach their desired financial goal. One usually accepted motivation for the systemic over-reporting of corporate income which came to light in 2002 was the giving way of stock options as part of executive compensation packages. Since stock prices replicate earning reports, stock options could be most profitably worked out when income is overstated, and the stock can be sold at an inflated profit. The most notable activist is Abraham Briloff (professor emeritus of CUNY Baruch) who for years wrote a column for *Barron's* that constantly analyzed breaches of ethics and audit professionalism among CPA firms. The most famous book of his life is *Unaccountable Accounting*. The profession, in turn, was not kind to Dr. Briloff but much of what he supported has been enforced on the industry in the wake of the Enron scandal. According to critic David Ehrenstein, the term "Creative Accounting" was first used in 1968 in the film *The Producers* by Mel Brook.

Techniques of Creative Accounting:

Many accountants think that accounting is just science, but this is wrong because accounting is also an art and many creative works can be included in it. In this context six main areas are considered the "source of inspiration" for the creative accounting. They are flexibility in regulation, a lack of regulation, a powerful tool for managements' use, a scope for management that assumed some targets for the future, the timing of some transactions and in the use of artificial transactions. It was proved, that even in highly regulated countries such as USA, the accounting environment afford a great deal of flexibility. This can be understood through the following steps :

1. Flexibility in regulation. Generally the regulation, particularly the accounting regulation permits flexibility in choosing a policy to follow; the International Accounting Standards lathe financial management to choose between valuation of the non-current

assets at depreciated historical value or at revaluated value. The management may decide the change of the policies, and these shifts are difficult to be identified a few years later.

2. Lack of regulation is meeting in some areas in every domain. In most countries accounting regulation is limited in some areas, for example in Romania there is few mandatory requirements for transactions with futures and stock options or for the recognition and measurement of pension liabilities.

3. Management can use their discretionary position in order to obtain the financial position and stability they assumed; for example, the managers decide the increase or reduce of the provisions for bad debts.

4. The timing of some transactions offers to the management the opportunity to increase the revenues, when the operating profit is not satisfactory, and to create the desired impression in the accounts. The existing stocks in company's patrimony, which has a significant higher Value compared to the historical value, may be sold only when the operating profit is not satisfactory.

5. The artificial transactions are often used in order to manipulate the balance sheet amounts or to move the profits between accounting periods. These transactions are realized by entering in a controlled transaction with two or there parties, one of them, most of the times, a bank. Such arrangements consists in selling of an asset at a higher/lower rate than in an Uncontrolled transaction, and then leasing it back for the rest of it useful period, compensating through the rentals the price difference.

6. Reclassification and presentation of financials are comparatively less analysed in accounting literature. However, in truth the companies often carry on to make up the amounts in order to obtain good level of profitability, liquidity or leverage ratios. Most of the times, the numbers are smoothly modified in order to improve the investors' perception. Techniques of creative accounting are not new, but many of the times these are prove to be more expensive. In order to attract investors and to appear profitable to the shareholders, employees, creditors, suppliers and other categories, the companies can decide to misstate the financials; this practice often lead to drastic consequences.

Reasons and consequences of creative accounting:

Creative accounting enables the managers to pay less taxes and dividends to its' shareholders, the employees in getting better salary and higher profit share, the authorities to collect more taxes. It can be easily seen that the interests are tremendous divergent and creative accounting is deepening it. Investor-shareholders are interested to get more dividends and capital gains. Country's tax authorities would like to collect more and more taxes. Employees are interested to get better salary and higher profit share. But creative accounting puts one group or two to advantageous position at the expense of others. The investors often go wrong by taking into consideration only one ratio, as earnings per share (EPS) ratio can be 'boosted by the stroke of an accountant's creative pen'. David Schiff (1993: 94-95) considers that there are six main ways used by the companies to increase their earnings by: (1) hidden pension liabilities, (2) capitalizing the expenses instead of writing them off, (3) realizing an faster increase of the receivables or inventories versus sales, (4) reaching negative cash flow, (5) consolidating the affiliates' incomes and net worth, and (6) following seemingly conservative practice in a situation of reverse direction.

Australian Society of Accountants pointed out that financial statements, which inflate the financial position and the performances of companies by manipulating the figures (i.e., through creative accounting) should be stamped out, because the investor find great difficulties in distinguishing between the made up financials and the truly financials. This article may be used to stress the main effects of creative accounting which are as explained below:

1. It creates confusion among the shareholders because the financial statements are inflated.
2. The detailed picture of the financial position of the listed company can't be known from the prospectus.
3. The techniques used by creative accounting can impress the investors only for a short period but when the financial condition will be worse this cannot be hidden further.
4. The long time effect of such practice is the distrust of the investors conducted by the collapse of companies that take advantage of these techniques.

The following corporate cases on creative accounting has been investigated ,analyzed and interpreted which are mentioned below.

ENRON SCANDAL

The biggest **Enron scandal**, came to picture in October 2001, eventually led to the bankruptcy of the Enron Corporation. It was the largest bankruptcy reorganization in American history at that time, It was regarded as the biggest audit failure. Enron was formed in 1985 by Kenneth Lay after merging Houston Natural Gas and InterNorth. After some years, Jeffrey joined Enron. He developed a staff of executives that, through the use of accounting loopholes, special purpose entities, and poor financial reporting, were able to hide billions in debt from failed deals and projects. Chief Financial Officer Andrew Fastow and other executives not only misled Enron's board of directors and audit committee on high-risk accounting practices, but also pressured Andersen to ignore the issues.

In Enron's natural gas business, the accounting had been fairly straightforward: in each time period, the company listed actual value of revenue received from selling and actual cost of supplying the gas. However, when Skilling joined the company, he made the trading business in market-to-market accounting basis. Citing that it would reflect "true economic value", Enron became the first non-financial company to use the method to account for its complex long-term contracts.

(In Mark-to-market accounting once a long-term contract was signed, income was estimated as the present value of net future cash flows. Often, the viability of these contracts and their related costs were difficult to judge. Due to the large discrepancies of attempting to match profits and cash, investors were typically given false or misleading reports).

Enron's financial statements were not very clear regarding its operations and finances with shareholders and analysts. In addition, its complex business model and unethical practices required that the company use accounting limitations to misrepresent earnings and modify the balance sheet to portray a favorable depiction of its performance.

In an article by **James Bodurtha, Jr.**, he argues that from 1997 until its demise, “the primary motivations for Enron’s accounting and financial transactions seem to have been to keep reported income and reported cash flow up, asset values inflated, and liabilities off the books.” The combination of these issues later led to the bankruptcy of the company, and the majority of them were perpetuated by the indirect knowledge or direct actions of Lay, Jeffrey Skilling, Andrew Fastow, and other executives. Skilling, constantly aimed at meeting Wall Street expectations, pushed for the use of mark-to-market accounting and pressured Enron executives to find new ways to hide its debt. Fastow and other executives “...shaped off-balance-sheet vehicles, composite financing structures, and deals so puzzling that few people can understand them even now.”

Investigative Findings

1993-2001: Enron also used **complex & dubious accounting schemes** for the following:

- *To reduce* Enron’s tax payments.
- *To inflate* Enron’s income and profits.
- *To inflate* Enron’s stock price and credit rating.
- *To hide* losses in off-balance-sheet subsidiaries.
- To engineer off-balance-sheet schemes to *funnel money* to themselves, friends, and family.
- *To fraudulently misrepresent* Enron’s financial condition in public reports. (http://en.wikipedia.org/wiki/Accounting_scandals)

SATYAM SCANDAL

Jan. 7 2009 was perhaps one of Corporate India’s worst unfolding chapters, Mr. B. Ramalinga Raju, Promoter-Chairman of the \$2-billion Satyam Computer Services, radically walked down confessing to forging financial figures of the business to the tune of Rs 7,136 crore, including Rs 5,040 crore of non-existent cash and bank balances.

The shocking disclosure by Mr. Raju, considered one of the poster boys of Indian IT, jolted the corporate world, investor community, Government and large pool of young professionals, pushing the fourth largest Indian IT company into a crisis, exposing it to acquisitions and leaving the future of 53,000 employees in balance. After such an announcement the Satyam scrip was slaughtered to a low of Rs 39.95, down by 78 per cent, and several FIIs (which hold nearly 61 per cent) offloaded their shares. The market cap plummeted to Rs 2,705 crore from over Rs 12,000 crore on a single day. Mr. Ram Mynampati, President, was quickly made interim CEO to steer the troubled ship, while Mr. Raju would continue till the new board was constituted on January 10. Mr. Raju revealed the real motive behind the December 16 bid to acquire Maytas companies for \$1.6 billion. It was only to swap the fictitious cash reserves of Satyam built over years with the Maytas assets. Mr. Raju thought the payments to Maytas could be delayed once the Satyam's problem was solved. But unfortunately investor outcry, media pressure and highly unfavorable economic conditions played spoil sport to Mr. Raju's plans, leading to his exit.

Mr. Raju in his disclosure to the Bombay Stock Exchange admitted that the balance sheet for September 30, 2008, comprised faked and inflated figures of revenue, profit, interest and debt. The list includes Rs 5,040 crore of non-existent cash and bank balances, non-existent accrued interest, understated liability of Rs 1,230 crore on account of funds raised by Mr. Raju and overstated debtors position of Rs 490 crore (as against Rs 2,651 crore). "What started as a marginal gap between actual operating profit and the inflated figure started to grow over the time period. It has attained unmanageable proportions as the size of the company's operations grew over the years. One lie led to another. The problem further worsened as the company had to carry additional resources and assets to justify higher level of operations, leading to increased costs. To keep the operations going, Mr. Raju was forced to raise Rs 1,230 crore by pledging the family-owned shares as things went out of hand. His woes were compounded with dues in several crores to vendors, fleet operators and construction companies.

The offloading of the pledged shares by IL&FS Trust and others brought down the promoters' stake from 8.65 per cent to a fragile 3.6 per cent. The build-up by FIIs and

investors and buzzing marketing rumors of possible suitors, seemingly hastened the exit of the promoter. By the end of the day, Mr. Raju was left facing charges from several sides. The Ministry of Corporate Affairs, the State Government and the market regulator, SEBI, were also disposed to probing the affairs of the company and his role as well as corporate governance issues. The city was also afloat with rumors about his whereabouts.

A lot of questions had been asked about the role of the audit firm of Satyam Computers. that is Price waterhouse. In it's reply the so-called Big Four audit firm (KPMG, Ernst & Young and Deloitte Touche & Tohmatsu being the other three) put out a standard statement hiding behind "client confidentiality" and stating that it was "examining the contents of the statement". Realizing probably, that this was not enough, it came up with a second statement claiming that "the audits were conducted in accordance with applicable auditing standards and were supported by appropriate audit evidence". If this is not laughable, what is certainly so is the part about "examining the contents of the statement". Didn't Price Waterhouse, as the auditor, know what its client was up to? If it did not, as its statement seems to suggest, then the audit firm is liable to be hauled up for professional negligence

Manipulation of revenues and earnings:

Going by his confessional statement to the Board of Satyam Computer, what he has done over the years appears to be rather simple manipulation of revenues and earnings to show a superior performance than what was actually the case. For this, he resorted to the time-tested practice of raising fictitious bills for services that were never rendered. Such bills will have to either reflect as outstanding dues from customers, which will add up to sundry debtors on the balance sheet. Or, it has to be shown as realized, in which case, the cash or bank balance should increase correspondingly. From Mr. Raju's statement, it appears that he's done both, inflate receivables and cash. For instance, in the September quarter, Satyam inflated revenues by Rs 588 crore all of which went straight to the bottomline. Thus, operating profits were artificially boosted from the actual Rs 61 crore to Rs 649 crore.

About Rs 490 crore of this artificially inflated Rs 588 crore was added to receivables as conceded by Mr. Raju himself. The remaining Rs 98 crore appears to be a part of the Rs 5,040-crore cash hole in the balance sheet. What beats understanding though is how Mr Raju managed to show a cash/bank balance of Rs 5,361 crore when all Satyam had was Rs 321 crore as of September 30, 2008. Auditors generally insist on certification by banks of the balances held by them in the company's account. Did the auditors fail to do that? Did Mr. Raju produce forged certificates? Or did he just manage to find funds for just one day to deposit into the account to get a certificate? Besides the above, Satyam also showed interest earnings of Rs 376 crore that was fictitious. This is also a common strategy designed to boost earnings performance. Finally, Mr. Raju says he infused funds of Rs 1,230 crore into Satyam which is not reflected in its books as dues to him. In effect, Satyam has understated its liability. (Reference-Business line Dt. January 9, 2009)

The term Creative Accounting as generally understood refers to systematic misrepresentation of the true revenue and assets of corporations or other organizations. "Creative accounting" is at the root of a number of accounting scandals, and many proposals for accounting reform - usually centering on an updated analysis of capital and factors of production that would correctly reflect how value is added.

Newspaper and television journalists have hypothesized that the stock market downturn of 2002 was precipitated by reports of accounting irregularities at Enron, WorldCom, and other firms in the United States.

The question this paper raises is: Are these creative practices always a bad thing or can they ever be justified? As manipulation is not fraud, it is a matter of interpretation. This can be a case study for future research.

References:

1. Alam, A.K.M. Sahabub (1988), "Creative Accounting – Is It Leading Us Towards a Stock Market Crash?" *The Cost and Management*, The Institute of Cost and Management Accountants of Bangladesh, Dhaka, Vol. 16, No. 5 (September-October): 7;

2. Bosch, H. (1990), *The Working of a Watchdog* (Melbourne: Heinemann);
3. Fatt, James Poon Teng (1995), "Ethics and the Accountant," *Journal of Business Ethics*, Kluwer Academic Publishers, The Netherlands, Vol. 14: 997-1004.
4. Griffiths, Ian (1992), *Creative Accounting: How to make your profits what you want them to be* (London: Routledge, First published in 1986).
5. IFAC (International Federation of Accountants) (1992), *IFAC Handbook 1992: Technical Pronouncements* (New York: IFAC).
6. Largay, J.: (2002), *Lessons from Enron*, Accounting Horizons, Vol. 16, No. 2, pp.154;
7. McNichols, M. and Wilson, G.P.: 1988 'Evidence of creative accounting from the provision for bad debts', *Journal of Accounting Research*, Vol. 26, Supplement, pp.1-33.
8. Metcalf, L. (1977), *The Accounting Establishment*, Staff study as the Chairman of the US Senate Subcommittee .
9. Mulford, C.W. and Comiskey, E.E.: (2002), *The financial numbers game: detecting creative accounting practices*. New York: John Wiley&Sons.
10. Niskanen, J. and Keloharju, M.: (2000), *Earning cosmetics in a tax-driven accounting environment: evidence from Finnish public firms*, The European Accounting Review, Vol.9:3, pp. 443-452.
11. Schiff, David (1993), *The Dangers of Creative Accounting* Worth (March): 92-94.
12. Schipper, K.: 1989, *Commentary on creative accounting*, Accounting Horizons, December, pp. 91-102
13. Sen, Dilip Kumar, Inanga, Eno L. (2005), *Creative Accounting in Bangladesh and Global Perspectives*, Partners' Conference Program Book, Partners'

Conference , Maastricht School of Management , The Netherlands (July 6-8):
75-87.

- 14- <http://www.svtuition.org/2009/03/technique-of-creative-accounting.html>
15. <http://www.eonline.com/>
16. <http://www.ebay.com>.
17. [http://en.wikipedia.org/wiki/E_\(mathematical_constant\)](http://en.wikipedia.org/wiki/E_(mathematical_constant))
- 18 <http://mathworld.wolfram.com/e.html>.
- 19 <http://definitions.uslegal.com/e/earning-capacity>.

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