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About the Journal

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EDITORIAL

It gives me immense pleasure to place the second issue of our journal "Vignana Jyothi-The Journal of Management" in your hands.

After the maiden issue was published, we received a very good response for the contribution of articles that have high intellectual value. In this issue also, we have strived to include the articles from various areas of management without compromising on the standards. This issue has a judicious blend of both conceptual and empirical papers. The issue would further help the teaching fraternity in knowing the latest developments in their respective areas. There cannot be two opinions regarding the fact that the teachers of B schools need to constantly take up research work of high value, so that it benefits all the stake holders of B schools. There is consensus opinion that the teachers of B schools have to do not only quality teaching but also undertake quality research. The journal is a humble attempt made by the institute to encourage quality research among the members of teaching fraternity of B schools. It is an attempt to build a storehouse of articles which are highly informative, touching the various facets of areas of management It is expected that the journal would facilitate dissemination of knowledge related to the latest developments in various areas of management education. It would also be our endeavor to include articles that give valuable information on some burning issues. For example the issue of climate change has engaged the attention of the nations world over. Topics such as 'carbon credit' is of immense importance to the researchers. With so much research going on in this area it has become necessary to fathom the intricacies of the topic, what exactly does carbon credit mean? What are the polemics related to this? What is India's stand in this regard? We would be glad to include articles consisting of hard core research in this area. The other vital topics that we would like to take up for our subsequent issues would be inflation, monetary and fiscal policy, HR practices, international finance, international marketing among others. We would thus make earnest efforts, to make this journal a platform for sharing the research work undertaken by the intelligentsia of the institutes pursuing management education.

Editor

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Determinants of Price Earning Ratio for Banking Sector in India

Puneet Dublish *

Abstract

The purpose of this paper is to investigate the relationship between the theoretically and globally established variables of Price Earning (P/E) multiple and Price Earning (P/E) ratio of the banking sector in India. The null hypothesis is that the payout ratio, growth rate and risk as measured by beta are good indicators of P/E ratio of a bank in India. The alternate hypothesis is that they are not good indicators. The sample comprises 16 public and private sector banks of India, which are listed under the Category A on the Bombay Stock Exchange. The financial data of banks have been taken for a period of five years from 31-03-04 to 31-03-08 and sourced from Capitaline (www.capitaline.com). Consistent with the literature reviewed, the paper hypothesized that the P/E ratio of a bank is a function of expected earnings growth (EG), dividend pay-out (DPO) and the risk of the company as measured by beta. A multiple regression tool is used to analyse the relationship between P/E ratio (dependent variable) of banks and independent variables as mentioned above. Two values of P/E were taken, one based on the average monthly closing share price for the year 2007-08 and the other based on the more recent share price. Under both scenario the t test result showed that growth is an insignificant variable and dividend payout and beta contributed significantly in explaining the variations present in P/E ratio. Based on these findings the null hypothesis was rejected.

Keywords: Valuation, P/E multiple, Earning Per Share, Dividend Pay-Out, Beta

Introduction

The Valuation of an asset, real or financial, is important in an investment decision. There are different valuation methods like discounted cash flow, dividend discount model, multiples approach, etc. Among the multiples approach Price Earning (P/E) multiple or ratio is the most widely used valuation method. It is used to examine valuation questions involving financial investment, initial public offerings, employee stock ownership plans, and corporate restructuring including mergers and divestitures. The P/E ratio of a firm which shows the relationship between market price per share and earnings per share, depend upon various systematic and unsystematic factors besides being influenced by the nature of the industry to which it belongs. The P/E multiple of a bank can be different from its counterparts while being quite different from firms across sectors because of factors like growth, risk, dividend payout, net profit which are in turn influenced by the Government policies, macro economic conditions, and operating efficiency of the firm.

Banking industry in India, which has been growing in the environment of competitive elements since the advent of financial sector reforms, has seen significant growth and technology has played an important role in transforming the business and providing attractive returns to investors. Banking sector stocks which include public and private sector have on average appreciated by more than 30 percent annually from 2004 to 2007. Based on the projections made in the "India Vision 2020", prepared by the Planning Commission and the Draft 10^{th} plan, the forecasts for the pace of expansion in the balance-sheets of banks is likely to decelerate. The total assets of all scheduled commercial banks by end-March 2010 is estimated at Rs.40,90,000 crores. That will comprise about 65 percent of GDP at current market prices as compared to 67 percent in 2002-03. It is expected that there will be large additions to the capital base and reserves on the liability side. With this in background the banking sector has been chosen to test one of the widely used valuation model viz. P/E ratio. The purpose of this paper is to extend the previous work on the determinants of P/E multiple by applying on Indian Banks both in

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public and private sector and in the process identify the relationship between the variables of P/E multiple and bank P/E ratio.

The paper reviews the existing literature, comparing and contrasting the results of the previous works with an objective to develop a theoretically acceptable foundation for a hypothesis in the following section. The data and methodology are discussed along with the empirical results are presented subsequently followed by conclusion.

Literature Review

There are both supportive and conflicting empirical results in the literature as to why the P/E ratios vary among different firms. Weaver and Morse (1978) are among the earlier researchers who examined the behavior of price-earnings ratios over time and evaluated the influence of earnings, growth, and risk on the P/E ratio across the equity market. Among their conclusions were that much of the effect of the factors that determine P/E ratios diminish over the long run. The correlation between earnings growth with the P/E ratio was negative in 16 out of 19 years under study.

Craig, Johnson et al. (1987) extended the above work investigating further the influence of the accounting method that a firm uses for reporting purpose on the firm's P/E ratio. Based on the hypothesis that relatively more conservative stated earnings are associated with higher P/E ratios, the researcher conducted different versions of the regression model using P/E ratio as the dependent variable. The results showed that the inventory valuation method along with investment tax credits were significantly associated with the P/E ratio.

Constand and Freitas et al. (1991) made a single country study investigating the factors behind the rapid rise in the P/E ratios of the Japanese firms from 1979 to 1989. They hypothesized that a company's P/E ratio depends on the expected growth rate in earnings, the risk of the company, and the dividend pay-out ratio that firm can maintain and still keep up with its growth rate on a long-term basis.

Alford (1992) empirically showed that a significant portion of cross-sectional variation in P/E multiples is explained by the industry profile.

Cho (1994) improved upon previous cross-sectional studies by using both the ex-ante and ex-post measures of risk and growth as well as persistence of earnings. The results of the study showed that ex-ante measure of risk and growth as well as payout ratios were the most explanatory variables.

Based on the above theories the factors chosen as determinants of P/E ratio for banking sector in India are expected growth rate in earnings per share (EPS), dividend pay-out ratio (POR), and risk as measured by ex-post beta. Also if one applies the dividend discount model for stock valuation where growth is constant then the formula for calculating the present value of stock is as given below:

$$P_0 = \frac{DPS_1}{K_e - g_n}$$

Where P_0 = value of equity

DPS_1 = expected dividend per share next year

K_e = required rate of return on equity (or cost of equity)

g_n = growth rate in dividends (forever)

Since

$$DPS_1 = EPS_0 \text{ (Payout Ratio)}(1+g_n)$$

The value of the equity can be written as:

$$P_0 = \frac{EPS_0\ (\text{Payout Ratio})(1+g_n)}{K_e - g_n}$$

Rearranging to yield the PE ratio:

$$\frac{P_0}{EPS_0} = P/E = \frac{\text{Payout Ratio}\ (1+ g_n)}{K_e - g_n}$$

If the P/E ratio is stated in terms of expected earnings in the next time period, this can be simplified to:

$$\frac{P_0}{EPS_1} = P/E_1 = \frac{\text{Payout Ratio}}{K_e - g_n}$$

The above equation can be modified to calculate the P/E ratio of firms with two-stage growth or three-stage growth. But the independent variables payout ratio, growth rate and beta, which determines the cost of equity using CAPM model, does not change. Thus the dependent variable (P/E) is an increasing function of the payout ratio and the growth rate, and a decreasing function of the riskiness of the firm.

Hypothesis

The null hypothesis is that the payout ratio, growth rate and risk as measured by beta are good indicators of PE ratio of a bank in India. The alternate hypothesis is that they are not good indicators.

Data and Methodology

The study tests the hypothesis that the payout ratio, growth rate and risk are good indicators of P/E ratio of a bank with an adequate sample and multiple regression analysis. The sample comprises 16 public and private sector banks of India, which are listed under the Category A on the Bombay Stock Exchange. The financial data of banks has been taken for a period of five years from 31-03-04 to 31-03-08 and sourced from Capitaline. Consistent with the literature reviewed before, we hypothesized that the P/E ratio of a bank is a function of expected earnings growth (EG), dividend pay-out (DPO) and the risk of the company as measured by beta. The DPO as shown in Appendix I in the appendices is calculated on the basis of the arithmetic average of the previous five years. The DPO for each year is calculated by the given formula – (PAT – Retained Earnings)/ PAT. The beta figures (data on beta for each year were taken from Capitaline) of banks were averaged for the last five years as shown in Appendix-II.

The expected growth rate for each bank is derived by the following formula – (1 – DPO) x Return on Equity. A reference to the past compounded annual growth rate (CAGR) or geometric mean was taken into consideration as shown in Appendix III.

To calculate the price (P) of the dependent variable (P/E), average monthly closing market price was taken from 01-04-07 to 31-03-08 as shown in Appendix IV, while Earnings Per Share (E) is as on 31-03-08.

Multiple regression is used to analyze the relationship between P/E ratios of banks and the above mentioned variables, all conceptually justified and consistent with the existing literature, can be stated in a single equation as follows:

$$(P/E)\ Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e$$

The exact methods of computation for each variable were explained in Appendix V. The next section examines the results.

Data Analysis & Empirical Results

Regression Result : The coefficient obtained by regressing the above equation for the banking sector in India is given as:

$$(P/E)\ Y = 23.132 + .257X_1 + 1.29X_2 + (-\ 32.851)X_3 + 7.322$$

Coefficient of determination: The overall correlation between the dependent variable and independent variables is 0.769 while the extent to which the PE behavior is determined by the independent variables is 0.488 (Adjusted R^2). This shows that approx. 49% of the variation which is present in PE has been explained by Growth, DPO and Beta.

F- test: The value of P is 0.011 which is less than 0.05 (the value of alpha considered in the research). Hence, overall the model (coefficient of regression equation) is significant.

Table 1: T-test

	P value
Constant	0.191
Growth	0.422
DPO	0.004
Beta	0.027

At 5% level of significance, it was found that 'Growth' is not a significant independent variable (.422 > .05). However, 'DPO' (.004 < .05) and 'Beta' (.027 < .05) are contributing significantly in explaining the variations present in P/E ratio, which is the dependent variable in the present study. (Table 1)

The year 2007-08 for which the PE has been calculated, was an unusual year when prices touched the historical peak level with the PE multiple of BSE 30 stock index quoting at a level of 26. There was no fundamental justification for such high level. Hence the regression equation of P/E of banking sector shows results which reinstates that our alternate hypothesis is correct.

To correct the above, a more realistic level of price (P) of Indian banks is being considered. Here the dependent variable (P/E) is now calculated based on the more recent price level as existing in the month of July, 09 when the prices are more realistic and balanced. The revised P/E with independent variables is shown below in the Appendix VI.

Based on the above revised PE the results are given as:

Regression result : The coefficient obtained by regressing the equation for the banking sector in India based on data given in Table -VI, is as given below –

$$(P/E)\ Y = 12.969 + .396X_1 + .768X_2 + (-\ 20.957)X_3 + 4.964$$

Coefficient of determination : The result under this is almost similar to the earlier one with the overall correlation between the dependent variable and independent variables standing at .750 while the extent to which the P/E behavior is determined by the independent variables is .452 (Adjusted R^2).

Table 2: T-test

	P value
Constant	0.274
Growth	0.083
DPO	0.009
Beta	0.035

At 5% level of significance the results are similar with 'Growth' being an insignificant independent variable (.083 > .05), while the other two independent variable viz. 'DPO' (.009 < .05) and Beta (.035 < .05) are contributing significantly in explaining the variations present in P/E ratio. (Table 2)

Conclusion

The above study shows that the independent variable (P/E ratio) of banking sector in India is significantly explained by dividend payout and risk as measured by beta. The other independent variable viz. growth, which as per theory is considered to be an important factor of P/E ratio (dependent variable) was under both scenario (year 2008 and 2009) an insignificant independent variable. Hence, based on this we reject null hypothesis or in other words accept alternate hypothesis. The significance of this paper to portfolio managers, analysts and investors lies in the results, which shows that one, should look beyond established theories and that the market is not necessarily guided by fundamentals. A major limitation of this study is that the adjusted R_2 value is .452 which indicates that the unexpected variation in PR ratio is 55% which needs exploration of other variables which could also influence PE ratio significantly. Further the regression methodology has its limitation as the independent variables (Growth, DPO and Beta) itself might not be stable and hence the regression coefficients will change from year to year. The results findings should be tested in other countries and in other periods.

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Appendix I

Pay-Out Ratio

	31-03-08	31-03-07	31-03-06	31-03-05	31-03-04	TOTAL	AVERAGE
BANK							
HDFC Bank	19.55	20.22	20.22	21.59	20.07	101.65	20.33
ICICI Bank	42.09	37.15	33.32	36.62	30.95	180.13	36.026
Axis Bank	20.75	19.89	20.75	23.71	21.37	106.47	21.294
SBI	20.68	11.4	13.26	11.95	10.18	67.47	13.494
Bank of Baroda	21.09	22.1	22.81	22.43	20.31	108.74	21.748
Bank of India	10.66	15.57	21.51	29.85	14.8	92.39	18.478
Canara Bank	21.73	20.92	20.74	20.9	15.63	99.92	19.984
Federal Bank	19.19	11.93	13.55	18.68	11.33	74.68	14.936
IDBI Bank	20.49	17.75	19.89	9.4	32.47	100	20
Indian Overseas Bank	16.3	16.67	18.56	20.64	21.83	94	18.8
Indian Bank	18.32	18.4	2.12	0	0	38.84	7.768
Oriental Bank of Commerce	35.34	20.98	20.82	8.04	14.29	99.47	19.894
Punjab National Bank	20.71	21.16	20.08	13.64	9.69	85.28	17.056
UCO Bank	20.04	26.25	0	23.87	18.73	88.89	17.778
Union Bank of India	14.94	21.62	27.17	23.07	23.29	110.09	22.018
Allahabad Bank	16.48	18.43	26.23	19.79	15.26	96.19	19.238

Appendix II

Beta Values

BANK	2007-08	2006-07	2005-06	2004-05	Average
HDFC Bank	0.9917	0.8756	0.7141	1.2308	0.95305
ICICI Bank	1.2521	0.957	1.1809	1.0303	1.105075
Axis Bank	0.9144	0.995	0.6607	1.123	0.923275
SBI	1.0415	0.9142	1.0159	1.4192	1.0977
Bank of Baroda	1.1431	1.0126	1.1894	1.9751	1.33005
Bank of India	1.1721	1.3684	1.4686	1.6083	1.40435
Canara Bank	1.0694	1.3017	1.1363	1.2758	1.1958
Federal Bank	0.6328	1.0739	0.9065	1.4853	1.024625
IDBI Bank	1.4307	1.4302	1.0899	1.7671	1.429475
Indian Overseas Bank	1.0048	1.1592	0.8807	1.6009	1.1614
Indian Bank	1.1747	0.9915	-	-	1.0831
Oriental Bank of Commerce	1.0776	1.0447	0.6903	1.734	1.13665
Punjab National Bank	1.0221	1.0093	1.0124	1.5295	1.143325
UCO Bank	1.1264	0.7637	0.621	1.5173	1.0071
Union Bank of India	1.2254	1.1579	0.9226	1.4469	1.1882
Allahabad Bank	1.182	0.7193	0.7737	1.591	1.0665

Appendix III

Earnings Per Share (EPS)

	31-03-08	31-03-04	Growth Rate	
BANK			Past CAGR	Predicted
HDFC Bank	43.42	17.44	26%	20%
ICICI Bank	26.13	24.23	2%	6%
Axis Bank	28.91	11.7	25%	18%
SBI	103.94	68.53	11%	12%
Bank of Baroda	37.92	32	4%	6%
Bank of India	35.73	20.27	15%	14%
Canara Bank	36.81	31.99	4%	8%
Federal Bank	20.84	61.75	-24%	4%
IDBI Bank	9.76	4.62	21%	16%
Indian Overseas Bank	21.47	9.16	24%	20%
Indian Bank	21.84	8.87	25%	20%
Oriental Bank of Commerce	13.3	34.99	-21%	3%
Punjab National Bank	62.77	41.28	11%	12%
UCO Bank	4.99	5.34	-2%	2%
Union Bank of India	26.78	15.03	16%	16%
Allahabad Bank	21.23	13.11	13%	13%

Appendix IV

Average Monthly Market Price from 1-4-07 to 31-03-08

BANK	
HDFC Bank	1380.03
ICICI Bank	1024.64
Axis Bank	783.79
SBI	1739.17
Bank of Baroda	324.83
Bank of India	287.99
Canara Bank	267.05
Federal Bank	267.91
IDBI Bank	125.04
Indian Overseas Bank	139.95
Indian Bank	161.58
Oriental Bank of Commerce	231.4
Punjab National Bank	556.18
UCO Bank	40.15
Union Bank of India	157.55

Appendix V

Values of Dependent and Independent Variables under Study

BANK	P/E	Growth in EPS (X_1)	POR (X_2)	Beta (X_3)
HDFC Bank	31.78	20%	20	0.95305
ICICI Bank	39.21	6%	36	1.105075
Axis Bank	27.11	18%	21	0.923275
SBI	16.73	12%	14	1.0977
Bank of Baroda	8.57	6%	22	1.33005
Bank of India	8.06	14%	19	1.40435
Canara Bank	7.25	8%	20	1.1958
Federal Bank	12.86	4%	15	1.024625
IDBI Bank	12.81	16%	20	1.429475
Indian Overseas Bank	6.52	20%	19	1.1614
Indian Bank	7.39	20%	10	1.0831
Oriental Bank of Commerce	17.39	3%	20	1.13665
Punjab National Bank	8.86	12%	18	1.143325
UCO Bank	8.04	2%	18	1.0071
Union Bank of India	5.88	16%	22	1.1882
Allahabad Bank	4.59	13%	19	1.0665

Appendix VI

Revised Values of Dependent and Independent Variables under Study

BANK	P/E	Growth in EPS(X^1)	POR (X^2)	Beta (X^3)
HDFC Bank	27	20%	20	0.95305
ICICI Bank	20.6	6%	36	1.105075
Axis Bank	16.2	18%	21	0.923275
SBI	9.5	12%	14	1.0977
Bank of Baroda	6.6	6%	22	1.33005
Bank of India	5.6	14%	19	1.40435
Canara Bank	5.2	8%	20	1.1958
Federal Bank	7.8	4%	15	1.024625
IDBI Bank	8.4	16%	20	1.429475
Indian Overseas Bank	3.4	20%	19	1.1614
Indian Bank	4.5	20%	10	1.0831
Oriental Bank of Commerce	4.7	3%	20	1.13665
Punjab National Bank	6.4	12%	18	1.143325
UCO Bank	3.8	2%	18	1.0071
Union Bank of India	6.7	16%	22	1.1882
Allahabad Bank	4.3	13%	19	1.0665

Consultancy Agencies: Expectations of Job Seekers and Fulfilment - A Statistical Study

Ch.S. Durga Prasad *

Abstract

Consultancy agencies play a crucial role as intermediaries to identify suitable candidates in matching with the requirements of employers as the job market in India is highly competitive. They are supposed to offer a wide range of services to job seekers in different ways such as providing information about jobs in the market, rendering counseling services and so on. They should also help the clients in procuring applications from the right candidates, conducting interviews for them as per specifications and finally providing the list of candidates for selection by the clients.

This paper aims at studying the expectations of job seekers from the consultancy agencies and the extent to which such an agency is able to fulfill these expectations. The present study has shown that the consultancy agencies are useful intermediaries in dealing with the job market situations when they are well equipped.

Introduction

The job market is highly competitive in nature in India. The number of job seekers has been increasing enormously over the years and the employers are finding the task of selecting suitable people for their organisations complex, tedious and costly. While many candidates may try for jobs on their own, there are some who approach consultancy agencies with the hope of getting a job quicker. Consultancy agencies play a crucial role as intermediaries to identify suitable candidates in matching with the requirements of employers. They are supposed to offer a wide range of services to job seekers in different ways such as providing information about jobs in the market, rendering counseling services and so on. They should also help the clients in procuring applications from the right candidates, conducting interviews for them as per specifications and finally providing the list of canditates for selection by the clients. It is a professional task. Some clients may have in-house skills and time for the same while many may prefer delegating the function to a consultancy agency.

This paper aims at studying the expectations of job seekers from the consultancy agencies and the extent to which such an agency is able to fulfil these expectations. The objectives, scope and methodology of the study have been spelt out in the subsequent sections. The sources of data have been specified next. This is followed by a discussion on the intricacies of recruitment and selection process. Then, the expectations of job seekers have been analysed. In order to assess the extent to which these expectations have been fulfilled, a consultancy agency has been selected and the job seekers' views have been obtained. Finally, based on the findings of the study, it is attempted to state the steps a consultancy agency should take to be effective in its functioning.

Objectives

The objectives of the present study are: (a) to discuss the issues of recruitment and selection process; (b) identifying the expectations of the job seekers from the consultancy agencies; (c) assessing the extent to which these expectations are fulfilled; and (d) the steps that can be taken by the consultancy agencies to enable them function effectively in fulfilling the expectations of the job seekers.

Scope and Methodology

For the study, a consultancy agency in an 'A class' city has been selected; it has two branches and recruits people for a number of reputed companies. The agency maintains records of job seekers and assists them in

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various ways such as providing information to them about jobs to the final stage of giving feedback after the selection process is completed for jobs filled through the agency. It helps clients by conducting interviews at various places in India and hiring people for them as per needs. It represents the clients in various cities of the country for campus recruitment and walk-inns.

The scope of the study is confined to the candidates (referred to as job seekers for this study) approaching the consultancy agency for assistance in getting jobs. The methodology of the study involved selection of a sample of 100 job seekers on random basis, collection of data from them using a structured questionnaire and analysis of the data by applying statistical tools.

Data

Both secondary and primary data were collected for the study. Secondary data was collected mainly to carry out sourcing of the candidates for specific processes. The source of secondary data was the existing database of the consultancy agency. Primary data comprised the responses from the candidates gathered through a structured questionnaire. The questions covered related to: (a) General information about the candidates; (b) eliciting from the candidates the five most important services they would expect from a consultancy agency in general, in order of preference; (c) the candidates' perception about the consultancy agency taken up for the study on six factors, namely, Career counselling, Information about job opportunities, Information about interview process, Feedback, Courteousness of employees of the agency, and the Comfort level during initial interaction with the agency; and (d) the overall satisfaction level of the candidates about the agency under reference and the likelihood of their recommending it to others. The data have been analysed using statistical techniques.

Recruitment and Selection Process

Recruitment is an art and not just a process. There are several types of recruiting people, but the mechanics vary depending upon the aims, skills and approaches adopted by the recruiter. There are *Corporate Recruiters* who are retained by a company for the purpose of finding qualified and meritorious employees. There are *Third party Recruiters*, who include Contingency Recruiters, who are subcontracted by a company for the same purpose. Both are paid by the hiring company, but retained recruiters typically enter into an agreement with the client as an 'Exclusive' and are paid a portion of the fee upfront, the balance being paid when the search is over. Retained recruiters are typically used for executive level positions. Third party Recruiters do not have an exclusive relationship with the company, and are paid a fee only if the company hires a candidate through their efforts. The clients are basically of two types viz., active and sleeping.. Active clients are those for whom the hiring is currently been done by the consultancy agency. Sleeping clients are those who do not have any requirement at the moment, but the agency will be in contact with them for business.

Job Analysis

Before determining as to how to source and select the candidates, the recruiter should have a clear idea about the job requirements of the client and attributes of the persons who will best meet these requirements. Job analysis includes (a) the minimum qualification; (b) work experience required (if any); (c) skills needed such as communication skills, convincing abilities, decision making, ability to work in a team, and so on; (d) salary and perks offered (e) location (f) joining date (g) number of people required and (h) understanding the selection process of the client. It also covers aspects of the purpose of the job, its position within the company and the work tasks and outputs. Similarly, information about the job seekers, maintained by the consultancy agency, enables it to match the job needs of the client with the skills, attributes, experience and qualifications and other details of the job seekers. The agency can also visualise as to how the client will assess the individuals during the recruitment and selection process to determine whether they meet the job requirements.

Steps in Recruitment Process

The *first step* in the recruitment process is to understand what the client is exactly looking for. Only after this, the recruiter can proceed further. This requires interaction with the top management of the client and the people therein connected with the recruitment issues. A general understanding of the working of the company by meeting people and different departmental heads will broaden the thinking of the consulting agency about the requirements of the client.

The *second step* involves sourcing of the candidates which is completely dependent on the requirements of the clients. There are different kinds of sourcing used by agencies, viz., (a) internet (b) informational interviewing (c) database (d) campus recruitment, and (e) headhunting. A breif account of these sources is given below.

In the case of online source, there are various job sites such as naukri.com. Keeping in view the requirements of the clients, the agency may search the resumes of the potential candidates, note their contact details and either call them for interaction or mail them the job opportunities. It helps reaching a wider pool of applicants, speeding up the recruitment cycle and reducing recruitment costs. It enables the agency to handle a high volume of job applications in a consistent manner. There are certain disadvantages such as some well qualified candidates not using internet to seek jobs, the resumes not containing the fully relevant details for the requisite jobs and so on.

In informational interviews, the recruiter talks to the candidates either on phone or in person and tries to gather the details of the candidates regarding their career goals, expectations and getting referrals who may be contacted for further information. It is an effective research and networking tool. It primarily involves a series of information and referral meetings. It is less formal than an interview.

Database will facilitate quick search for suitable candidates when the clients approach the consultancy agency with their needs. This will also make the costs less for the clients. The agency should maintain a regular rapport with the clients to fit their needs into the database. There should also be a system of getting information from the job seekers to update the database.

Campus recruitment is generally done when there can be a match between the needs of the clients and the job seekers in the academic institutions. The hiring team goes to campuses and gives a presentation about the hiring agency, the companies dealt with, the job profile and the expectations of the companies. Then the students are divided into a group of about 15 each and a jam session is taken for them, based on which the candidates are shortlisted. It is a cost effective way of selecting people for jobs from a huge pool of resources available in different disciplines. It promotes the image of the consultancy agency as well as the companies for whom selection is done. It enables the students understand the recruiting procedure. It focuses on student's potentiality and competency, instead of academic records only. It has certain limitations such as complexity in selecting suitable candiates from a large number of students, taking the appropriate job offer to appropriate college and time-consuming nature of the screening process.

Headhunting involves the executive recruiters to seek out and approach candidates directly for the client's specific needs. It is an important source for higher level executive jobs. It deals with finding and placing people, and not placing advertisements and waiting for resumes to come in. It focusses on the identification and presentation of only the most appropriate candidates for the particular searches that the client companies need.

The *third step* is assessment of the candidates. It is done mostly by personal interviews and sometimes on phone using the information interview process. In case of a personal interview, the assessment, in general, is done based on the criteria of appearance, dependability and skills.

The *fourth step* is screening and processing the candidates through a quality check by senior people in the consultancy agency. They are explained the entire interview process, what the company is looking for, giving them interview tips and so on.

Selection methods used in Recruitment

The recruitment process involves selection methods such as psychometric tests, ability tests, intelligence tests, attainment tests, personality questionnaires, work simulation, work sample exercises and interviews. Consultancy agencies may outsource the services of experts for this purpose and may build up their own people in the long run.

Feedback from the client

Once the rounds of interviews are done, it is essential to obtain feedback from the client. The number of people selected and those rejected as also the reasons for those rejected should be ascertained. An experienced recruiter will always get feedback from a company following an interview they have arranged. They will not continue to send applicants to the company without knowing why the ones they have already sent did not meet their needs. Without such critical feedback, the recruiter will have no way of knowing where they are falling short, and what they should do to send the right kind of candidates.

When clients conduct interviews at the office of the consultancy agency, the feedback has to be given to the client. When clients conduct interviews at their respective offices, getting feedback from them is relatively difficult which has to be dealt with by the senior executives of the consultacny agency by interacting with the clients..

Expectations of Job Seekers

It is attempted here to identify the expectations of the job seekers from the consultancy agencies in general. The candidates have been asked to name the five most important services they would like to have, in order of preference, from a consultlancy agency. The responses have been tabulated in two ways. (a) The servicess stated as 'the five most important' by each respondent (job seeker) are pooled together and the frequencies have been arrived at. It is found that there are nine services figuring in the 'top five' when the data for all the respondents is taken into account. Table 1 shows the services and the frequencies. The frequencies are overlapping in nature. This data help us identifying the services, which a consultancy agency should provide in the aggregate. (b) For each service, the frequencies have been noted under the five levels of importance viz., 'the most important' to the 'fifth most important'. This enables us to pick up the five most important services according to order of importance. The data are given in Table 2.

Table 1: Services figuring in the five most important mentioned by the candidates

	Service	Frequency
1.	Information about job opportunities	39
2.	Feedback after interviews	34
3.	Career counselling	25
4.	Courteousness of the employees of the agency	25
5.	Information about interview process	20
6.	Timeliness, infrastructure, etc	19
7.	Regular updation to candidates	18
8.	Tips for facing the interview	14
9.	Provision of training	4

Data in Table 1 show that the job seekers look for nine services to be provided by a consultancy agency. The primary requirement is 'information about job opportunities'. The next one 'feedback after interviews'. These are followed by 'career counselling' and 'courteousness of the employees of the agency'. Then come 'information about interview process', 'timeliness, infrastructure etc.' and 'regular updation to candidates'. The other services sought are 'tips for facing interview' and 'provision of training.' A consultancy agency has to ensure that all these services are provided to the candidates.

Table 2 gives data on the nine attributes under reference and the importance accorded by the respondents. Most important is indicated by 1. The 'second most important' to the 'fifth most important' are indicated by the numbers 2 to 5 in that order.

Table 2: Importance Accorded to Services: Frequencies

Service	Number of respondents who consider it as					Total
	Most important	Second in importance	Third in importance	Fourth in importance	Fifth in importance	
1. Information about job opportunities	25	9	4	1	-	39
2. Feedback after interviews	11	12	7	3	1	34
3. Career counselling	11	6	6	2	-	25
4. Courteousness of the employees of the agency	7	9	6	3	-	25
5. Information about interview process	3	10	6	-	1	20
6. Timeliness, infrastructure, etc	6	2	2	6	3	19
7. Regular updation to candidates	5	5	6	2	-	18
8. Tips for facing the interview	3	4	4	2	1	14
9. Provision of training	-	2	-	2	-	4

From Table 2 it is seen that Information about job opportunities is found to be the most important service according to the respondents. The second most important service is the provision of feedback after interviews; it also has the highest frequency under the column of 'third in importance.' To pick up a third important service distinctly, the next highest frequency by combining both second and third important services are considered. Thus, the third important service is identified as 'information about interview process.' The fourth in importance is 'timeliness, infrastructure, etc.' In the case of fifth important service, three services have been considered as important by only one respondent in each case and hence it is not taken into account.

Candidates' Perceptions on Agency's Performance

This section deals with assessing the extent to which the expectations of job seekers are fulfilled by the consultancy agency under reference. For the data on the perceptions of the candidates regarding the performance of the consultancy agency hve been obtained. Six attributes have been taken into account in this regard, which are shown in Table 3 The responses of the candidates about the performance of the agency in terms of these attributes have been obtained on a five-point scale indicating their level of satisfaction, ranging from 1 (the lowest level) to 5 (the highest level).

Table 3: Satisfaction Level of Candidates about the Consultlancy Agency

S.No	Attribute	Mean	Std. Deviation
1.	Courteousness of employees	4.27	.71
2.	Comfort level during the initial interaction with the agency.	4.19	.76
3.	Provision of information about the interview process	4.09	1.03
4.	Career counselling	3.69	.94
5.	Provision of feedback	3.61	.98
6.	Provision of information about job opportunities in the market.	3.43	.93

The data in Table 3 show that the candidates have been very highly satisfied regarding the courteousness of the employees of the company (4.27), followed by the comfort level during the initial interaction with the company, and the provision of information about the interview process by the company (4.09). The satisfaction level is relatively not that high for the other attributes which are more important for a candidate in getting a job. These are - career counselling (3.69), feedback (3.61) and information about job opportunities in the market (3,43). The measure of standard deviation for all these six variables is in the range of .71 to 1.03 which indicates low variation in the responses by the candidates.

Demographics and Perceptions of Candidates

A study was conducted to analyse the association between age group of the candidates and six performance perception variables regarding the services provided by the consultancy agency. Three age groups have been taken into account viz., 18-25 years, 26-30 years and 31and years. The sample size is 100. In order to do this Chi-square test of independence was conducted at 5 per cent level of significance. The findings are given in Table 4.

Table 4: Association between Age Group of Candidates and the Attributes of Performance

Association between Age Group and	Chi-square value	Significant value	Conclusion
Comfort Level	6.087	0.638	No association
Information about job opportunities	11.534	0.173	No association
Provision of information about interview Process	11.082	0.197	No association
Courteousness of employees	3.103	0.796	No association
Career Counselling	18.342	0.019	Associated
Providing proper feedback	10.082	0.259	Not associated

The data in Table 4 shows that age group of the candidates and the attribute of performance of the consultancy agency ‘Career counselling’ are associated . It implies that career counselling has to be provided differently for the three different age groups under reference. Age group has no association in relation to the other attributes of performance.

Next, the level of satisfaction derived by the respondents from the computer agency has been assessed. The data are given in Table 5. It is observed that 63% of the respondents have been very highly satisfied with the services of the agency and anothr 23% have been highly satisfied. Only 12% of the respondents are little satisfied and 2% are highly dissastisfied. In general, the level of satisfaction derived from the services rendered by the consultancy agency is very high.

Table 5: Level of Satisfaction with the Services Provided by the Consultancy Agency

Rating	Frequency	Per cent
Very Highly satisfied	33	33
Highly satisfied	63	63
Little satisfied	12	12
Highly dissatisfied	2	2
Total	100	100

It has been ascertained as to how the candidates have come to know of the consultancy agency. The data are given in Table 6.

Table 6: Awareness about the Consultancy Agency

Source	No of Respondents	Percentage
Friends & Relatives	68	68
Agency Representatives	22	22
Media	6	6
Others	4	4
Total	100	100

The data in Table 6 show that a major number of the respondents (68%) have come to know of the consultancy agency through friends or relatives. About 22% have approached the agency through the efforts of the representative of the agency. Media has played a minor role by attracting 6% of the respondents. Others have influenced 4% of the respondents.

Responses have been obtained from the job seekers about their inclination to recommend the consultancy agency to others. About 67% stated that they would definitely recommend the agency to others while 26% are mostly inclined to recommend it to others. The data are given in Table 7.

Table 7: Respondents Views about Recommending the Consultancy Agency

Inclination to recommend	Frequency	Percent
Definitely	67	67
Mostly	26	26
Cannot say	5	5
Mostly not	1	1
Never	1	1
Total	100	100

What a Consultancy agency should do?

The study revealed that the job seekers look for nine services in total, from a consultancy agency. These have to be offered, though everyone may not need all the services. Out of these, the top four in importance are - information about job opportunities, provision of feedback after interviews, information about interview process and timeliness, infrastructure, etc. These have to be given special attention by the agency.

Majority of the repondents, i.e. 63%, have been very highly satisfied with the services of the agency under reference, and anothr 23% have been highly satisfied. This indicates the importance accorded by job seekers to a consultancy agency. However, on a 5-point scale, the level of satisfaction has scope for improvement in the case of career counselling (3.69), feedback (3.61) and information about job opportunities in the market (3,43). The agencies will have to give weight to these factors.

The age groups of job seekers and career counselling are found to be associated, based on chi=square test of independence. It implies that career counselling has to be provided differently for the different age groups of participants.

A major number of the respondents, i.e. 68%, have come to know of the consultancy agency through friends or relatives. About 67% of the respondents who are in contact with the consultancy agency, stated that they would definitely recommend it to others while 26% are mostly inclined to recommend it to others. In such a situation, the growth of the agency will be mainly confined to the local job seekers. If people have to be attracted to the agency from outside the local areas, publicity through media plays a key role.

Senior executives may handle bigger clients. Job-opportunity charts and brochures may be prepared. The entire database may be automated. A grevience handling box may be made available in the office of the agency.

Conclusion

Recruitment demands a great amount of attention. The study has revealed that consultancy agencies play a positive role in assisting the companies needing people as well as job seekers. Outsourcing of recruitment process is a good option available to companies to recruit the best people for their organisations. Benefits will be more from outsourcing where the consultancy agency has invested heavily in technology. Consultancy agencies take up all the load involved in finding candidates by advertising on behalf of the clients and after assessing the response, provide the clients with a final shortlist. This may mean that the agency can provide a quicker, better and even cheaper service than the company can taking up the task itself. The candidates will benefit by approaching the recruitment firms. They get to know about positions that are not advertised in the media. They receive a professional and confidential service. They deal with experienced, technically aware, consultants who know the job market and match the demand for jobs with the requirements of the candidates. They receive advice on presenting the curriculum vitae in the best possible manner, local job market, prevailing market conditions and salary. The consultants can provide support and are available out of hours when required. That would help the job seekers to have competitive advantage over others who do not seek the services of consulting agencies. Overall, the present study has shown that the consultancy agencies are useful intermediaries in dealing with the job market situations when they are well equipped.

Impact of Advertisements on Children : An Empirical Study

Parul Gupta*

Abstract

The world of advertising is full of glamour and attraction that seems to be too good to be true for many of us. It has the power to provide quick and variety of solutions to almost all problems that young consumers may face. Advertising is one of the most popular sources to disseminate and to capture information about may product in the market whether it is a product newly launched or a product made available a decade before it has become almost impossible for us to imagine our lives without advertising. Is there a way to determine how much advertising affects our lives and influences our purchase decisions, and goes even further to change our attitudes. Young consumers are the most sought-after consumer segment in the market. They have impressionable minds, they like to keep up with the latest fad and have got money to spend! Although it might seem that children or teenagers do not have much purchasing power but they do have powers of persuasion and hence are aggressively wooed by the market.

This research paper focuses on advertising aimed at children and will try to find out few of the most important factors associated with TV advertising and responsible for changing eating habits of younger Indian children . Furthermore this paper provides an insight of advertising laws in European countries and their enforcement practices and provides a platform where Indian advertising legal framework can be compared with that of European countries. This study finds out the areas where there is an urgent requirement for legal, voluntary and government pressure groups to seriously take note of the situation. Hence, specific laws that relate to every aspect of advertising, especially those that target young children and pertain to food, soft drinks and other items are suggested.

Introduction

Television (TV) constitutes the largest segment of the ad-spend by all categories. There are more than 70 television channels in India, reaching 24 million cable and satellite homes and with over 150 million viewers. Advertising budgets climb up every year. McDonald's spends 2 billion dollars on advertising alone annually. Consumer goods companies spend anything between 5 to 15% of their turnover on brand building and advertising. The largest consumer goods company in India, Hindustan Unilever spent Rs 724 crores on advertising and Colgate spends almost 18% of its 11 billion turnovers on advertising.(Pooja Dogra 2006).

The intense competition for attention induces advertisers to use infants, babies, toddlers and older boys and girls in the hope that it will catch the attention of both youngsters and elders. The extensive use of children of 0 to 14 years by the hidden persuaders has several implications. Normally, child labour issues are regarding 5-14-year-olds, but in this industry even newborns and babies/toddlers are used.

How World looks at TV Advertising aimed at Children

Two years ago, the World Health Organisation (WHO) prepared a global strategy to counter what is known in medical jargon as "Diet-related non-communicable diseases". These include heart diseases, certain types of cancer, diabetes and, last but by no means least, obesity. The strategy addresses diet, physical activity and health. To promote this strategy, the WHO has been examining a range of interventions that possess the potential to tackle the global rise of such diseases. One of the key points on the agenda is the marketing of food and soft drinks, especially in relation to children. Even Walt Disney has now stopped franchising its comic book

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characters shaped as various fast food delights as "Happy Meals" at McDonald's in the United States. The "mother of all animators" wants to keep at arm's length what is now being perceived as a dangerous diet, one which turns children into obese adults.

Laws dealing with Advertising aimed at Children

If we look at the legal machinery for advertising we find there are very less or no specific rules concerning advertising aimed at children in most of the countries including India. There are few provisions in this regard which are applicable to all advertising not specifically advertising targeting children. In India, even these general rules pertaining to advertising are very lax. Also there are no regulatory bodies to monitor the contents of advertisements aiming children. Few voluntary groups like the " 'Advertising Agencies Association of India', and the 'Advertising Standards Council of India', both business organizations are active to put a moral pressure on advertisers and companies to withdraw objectionable advertisements. But mere moral pressure can do very little , there is required the interference of legal bodies to safeguard the health of young consumers because the increasing advertising of eatable is taking the young consumers nowhere but towards health problems.

Legal Advertising Concerns in Europe and US

In India where the parents and government are least concerned about what is being offered to their children through TV advertising, European parents and government closely monitor the message spread among their children through TV advertisements which is very clear from the strict legal protection to the health interest of young consumers against advertisers and companies in these countries. Few of these rules are listed below:

- In Sweden and Norway, TV advertising and sponsorship of programmes aimed at children below the age of 12 are prohibited.
- In Greece, the advertising of toys on television is banned between 7.00 a.m. and 10.00 p.m.
- In Germany and Denmark there are bans on certain forms of toys. In Austria and the Flemish part of Belgium no advertising is permitted 5 minutes before or after programmes for children.
- Sponsorship of children's programmes is not permitted in Denmark, Finland, Norway and Sweden while in Germany and the Netherlands, although it is allowed, it is not used in practice. Australia does not allow advertisements during programmes for pre-school children.
- Everywhere around the world, food advertisements comprise the major part of all advertising. The Consumers International did an International Comparative Study on 'Food Advertising Aimed at Children' in Europe and in Asia. It was found that it was largely the junk-food sector which advertised most aggressively.

Confectionery, breakfast cereals (mainly sweetened) and fast food restaurants overall accounted for over half of all food advertisements in Europe. Confectionery was the largest category comprising nearly a fifth of all food advertising. Other types of food products that were widely advertised were savoury snacks, dairy products, ready prepared foods, soft drinks, cakes and biscuits and desserts. Interestingly, like in India, all these advertised products are high in sugar and fat content. Fruit and vegetable advertisements are almost non-existent - both in India and in Europe.

The International and European Framework for Advertising aimed at Children

In 1989, the Council of Europe and the European Community established two separate yet highly synchronized legal texts laying down certain conditions for broadcasting. These texts, namely the European Convention on Transborder Television (ECTT) and the Television without Frontier Directives (TVwFD) are for their respective geographic scopes strictly binding on the CoE signatories to the Convention and the EU Member

States respectively. The ECTT acquires its legal power by virtue of ratification by the signatory members. As a matter of European law the Directive needs to be transposed into national law within the timeframe set.

As children 10 are naturally susceptible to subtle means of persuasion and less able than other social groups to guard themselves against them, they are offered dual legal protection: a generic set of rules that apply to all advertisements, and, in addition, specific children-oriented provisions that are more detailed and stricter than the generic rules. As a general rule, advertisements shall not be unfair, dishonest, misleading (Arts 11(1,2,3) ECTT)11 or subliminal or surreptitious (Art. 13(2,3) ECTT, Art. 3(e)(1)a, b AVMSD), while at the same time they shall be readily recognizable (Art. 13(1) ECTT, Art. 3(e)(1)a AVMSD). However, advertisements could easily meet the above conditions and still be detrimental to minors or to the educational mandate of their parents. For that reason advertisements aimed at children have to meet additional criteria.

Because the advertising industry uses objects that appeal to children as pivotal points of their advertising messages, European legislation seeks to safeguard against the exploitation of minors. To this end, the ECTT prohibits advertising to draw on such vulnerabilities of children and requires that it abstain from anything that could possibly harm children’s interests (Art. 11(3)). In the same vein, the Audiovisual Media Services Directive (AVMSD) stipulates that advertisements may not cause moral or physical detriment to children. To achieve this aim, the Directive sets out a series of criteria, namely that audiovisual commercial communications do not “directly exhort minors to buy or hire a product or service by exploiting their inexperience or credulity, directly encourage them to persuade their parents or others to purchase the goods or services being advertised, exploit the special trust minors place in parents, teachers or other persons, or unreasonably show minors in dangerous situations” (Art. 3(e)(1)g). Concerning on-demand services, the Directive requires that “Member States take appropriate measures to ensure that on-demand audiovisual media services provided by media service providers under their jurisdiction which might seriously impair the physical, mental or moral development of minors are only made available in such a way that ensures that minors will not normally hear or see such on-demand audiovisual media services” (Art. 3(h)).

Quantitative and Qualitative Restrictions

The quantitative restrictions apply only to television advertising but within this scope they cover all advertising techniques. In principle, advertisements must be delivered en bloc between programmes and shall not exceed 20% of any given hour (Arts 12(2), 14(1) ECTT, Arts 10(2), 11(1), 18(1) AVMSD). Children’s programmes of less than 30 minutes’ duration may not be interrupted at all by advertisements or Tele-shopping (Art 14(5) ECTT, Art 11(2) AVMSD).

A series of products, namely tobacco, medicines and alcoholic beverages, are further subject to strict qualitative restrictions, which in some cases amount to a total ban. Article 3(e)(1)d AVMSD reads “all forms of audiovisual commercial communications for cigarettes and other tobacco products shall be prohibited”[1] and the same wording is followed by the ECTT in Article 15(1) but, of course, only for television.

In the case of medicines, there is an almost complete prohibition on advertising. They may only be advertised when they do not require medical prescription (Art. 3(e)(1)f AVMSD, Art. 15(3) ECTT) and only under the condition that – according to the AVMSD – the advertisement is “readily recognisable as such” (Art. 3(e)(1)a AVMSD) or as the ECTT puts it even more strictly. it is “clearly distinguishable as such, honest, truthful and subject to verification and shall comply with the requirement of protection of the individual from harm (Art. 15(4) ECTT).”

The International Chamber of Commerce Consolidated Code (ICC)

The ICC is a global business organisation involved in a broad range of activities, 26 one of which is standards setting. In its Advertising and Marketing Communication Practice Consolidated Code 27 the ICC sets a detailed list of guidelines that cover all aspects of advertising. Children are given a special focus; the Code regulates aspects such as children's' products that national legislation does usually not address in such detail;

When demonstrating a product's performance and use, marketing communication should not

1. Minimise the degree of skill or understate the age level generally required to assemble or operate products;
2. exaggerate the true size, value, nature, durability and performance of the product;
3. fail to disclose information about the need for additional purchases, such as accessories, or individual items in a collection or series, required to produce the result shown or described.

While the use of fantasy is appropriate for younger as well as older children, it should not make it difficult for them to distinguish between reality and fantasy (Art. 18).

Furthermore, the ICC Code contains elaborate provisions concerning the protection of children's personal data. The Code suggests that "when personal information is collected from children, guidance should be provided to parents about protecting children's privacy. Children should be encouraged to obtain a parent's or other appropriate adult's permission before providing information via electronic media, and reasonable steps should be taken to check that such permission has been given. Only as much personal information should be collected as is necessary to enable the child to engage in the featured activity. Data collected from children should not be used to address marketing communication to the children's parents or other family members without the consent of the parent (Art. 19)."

Non-Existent Advertising Laws In India

1 In India, there are no specific advertising laws that relate to children and food-related advertisements in particular. A host of laws and Acts like the 'Cable TV Networks (Regulation) Act, 1995' and the 'Infant Milk Substitutes, Feeding Bottles and Infant Food Act' deal with children-related advertising in a vague way. Not only are there advertisements that are targeted at children but most of them feature young children, even babies.

2 TV Channels generally do not follow any rules regarding advertising air time. Doordarshan poses a limit on advertising time which is a maximum of 7 1/2 minutes of advertisements in a 30 minute programme. Private TV channels are free to air as many advertisements they like. This is primarily the reason why on some private channels, a 30-minute TV programme gets stretched to 45 minutes or even more and it is very important to note that maximum of these advertisements are aimed at children of young consumers

3 The intense competition for attention induces advertisers to use infants, babies, toddlers and older boys and girls in the hope that it will catch the attention of both youngsters and elders. The extensive use of children of upto 14 years by the hidden persuaders has several implications. Normally, child labour issues are regarding 5-14-year-olds, but in this industry even newborns and babies/toddlers are used.

Major Issues

In the absence of specific rules concerning advertising aimed at children almost any advertisement can be aired during a children's programme, exposing children to hard-sell techniques of the market. There are a number of ways by which advertisers impact young consumers, like by featuring their favourite film or sports stars endorsing the product, by instilling inferiority complex in consumer minds if they don't use the advertised product, by luring young consumers with promotional offers like free gifts. Whether it is McDonalds "Happy Meal " or Wimpy's or Narula's offering free ice-creams to students who have excelled in their examinations, free collectible coupons or tattoos inside chips packets, and other such advertising gimmicks. Such offering does not add any value to the product but used as a technique to lure children for more & more consumption of such items irrespective of its adverse effect of their health and eating habits. It should therefore be brought in the notice of Law making bodies that there is an urgent requirement of enactment of laws specifically dealing with advertising aimed at younger children and pertaining to food.

Research Objectives

- Whether the eating habits among Indian children are changing?
- How advertising aimed at children is responsible for rapidly changing eating habits of Indian children?
- What are the most important factors influencing children most concerning TV advertising?
- What are the implications of these changed eating habits for Indian children?

Research Design

An exploratory research was conducted to achieve above mentioned objectives.

Data Collection

Both primary and secondary data was used to reach to any conclusion. Secondary data fulfilled the requirement of law related information and to see the advertising impact primary data was collected.

Research Instrument

A structured, close ended questionnaire was used to collect primary data, comprising of 20 statements and data was recorded on a five point Likert scale. A sample of which is given Figure 1:

Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
1	**2**	**3**	**4**	**5**

Figure 1: Five Points Scale

Sample Size and Sampling Technique

Simple random sampling was used to select a sample size of 150 respondents (Parents of children above three and below 12 years of age).

Analysis

Data from 150 respondents was collected and factor analysis was applied using StatPac for Windows Version 10.3 for statistical calculations. Factor analysis applies an advanced form of correlation analysis to the response to a number of statements. The purpose of this is to determine if the responses to several of the statements are highly correlated and such highly correlated statements are grouped together in one factor assuming that these factors are measuring some factor common to all (Boyd Westfall, 2004). Varimax Simple Structure Factor Loadings is used to get final results (All the outputs of Factor analysis are shown in Annexure II in a tabular form). Four factors were identified and are explained under Research Finding.

Research Findings

Based on research conducted and Factor analysis results, four Factors were identified. These four factors are carrying eleven items which were taken into consideration while conducting primary research. Explanation of four extracted Factors is given below:

Factor 1: Communicable Unhealthy Eating Habits

Results of research conducted reveal that the eating habits of children have not remained same as those were earlier. Fast food items, soft drinks, potato chips, chocolate etc. constitute a larger portion of their daily diet.

“Developing Unhealthy Eating Habits” was one of the factors retrieved as one of the outcome of Factor analysis, which was the first and most heavily loaded factor. The factor was loaded with six items (Appendix II) which describe following facts:

1 Most of the children like a particular brand/Flavor/category of Fast food items, soft drinks, potato chips, chocolate etc. which shows the brand , flavor or category awareness of these items among children .

2 Many children prefer above mentioned food and beverage (F&B) to be packed in their tiffin for lunch and they enjoy these items more than traditional lunch items in their tiffin in schools.

3 Most of the parents complained that their children skip lunch or dinner and prefer consuming F&B mentioned above.

4 It was found that most of the children prefer same item to consume as they have seen their friends, classmates or companions consuming. So it is clear that these food and beverage (F&B) items are popular among children and they sometimes grab this habit from each other.

5 Many parents complained that their children consume these items on regular basis even if they strictly say No to their children whenever demanded.

6 It was found during the study that a larger portion of the pocket money is spent on purchasing these items by children.

Most of the above mentioned facts have a mean more than 3.5 which shows that the parents agree with the statements given to them concerning these facts (Appendix I). Keeping above mentioned facts collected during study it is clear that Indian children are moving toward fast food items, soft drinks, potato chips, chocolate etc. very fast. These items are so popular among children that the regular control and close monitoring of parents seems to be insufficient to discourage this habit.

Factor 2: Aggressive TV Advertising aimed at Children

Fascinating TV Advertising aimed at children was found to be the major Cause of developing unhealthy eating habits of Indian Children. Second set of items constituting second factor was “Fascinating TV advertising aimed at children”. This factor was second and most important output of the analysis conducted which throws light on the root cause of the problem explained by the first factor that is rapidly changing eating habits of Indian children. Most interesting fact concerning this factor is that all the issues raised by this factor got a response in positive giving a mean more than 3.5 to all variables (Appendix I). This factor is loaded with six items which confirm the aggressive advertising practices of advertisers aiming young consumers. This factor explains the influence of these advertisements on clean mind of a child. Details of the items loaded on this factor are given below;

1 Children can easily relate the item shown during TV advertisements and actually displayed on shops. It shows that attractive advertisements drop a permanent impression on clean mind of a child.

2 Most of the parents told that they never tell anything to their child about new arrivals of these items in the market and the major source of information is TV advertisements

3 Most of the children like a particular item / brand/ flavor or category of food and beverage (F&B) because the same is endorsed by their favorite cartoon character or celebrity. Thus marketers use all the possible means to pull the attention of children irrespective of its negative impact.

4 Most of the parents agreed that their children taste the new arrival in food and beverage (F&B) categories at least once as soon as they come to know about it through TV advertisements.

5 Attractive Gift schemes pulls the attention of children most towards any product category

6 Most of the children can recall the TV advertisement immediately looking at the product .which clearly shows that the TV advertisements aimed at children play most important role in deciding the liking or disliking of a particular item by them.

If we analyze all the collected facts together we find that Marketers and advertisers are employing all the hard core marketing tactics to sell their food and beverage (F&B) to children irrespective of the fact that older children and adults understand the inherent bias of advertising, younger children do not, and therefore tend to interpret commercial claims and appeals as accurate and truthful information. Because younger children do not understand persuasive intent in advertising, they are easy prey for commercial persuasion.

Factor 3: Slipping Healthy Diet of Children

Research findings reveal that Indian younger children's diet is lacking in sufficient nutrition. Third important finding of the study is, Factor 3 which confirms that diet of younger children does not carry required nutrients. This is one of the negative outcomes of aggressive marketing of less healthy or harmful food and beverage (F&B) targeting children. As discussed above companies and advertisers are responsible for pushing younger children towards unhealthy eating habits. Indian kids below eight years of age are unable to critically comprehend televised advertising messages. They are prone to accept advertising messages as truthful, accurate and unbiased. This leads to unhealthy eating habits as evidenced by today's youth obesity epidemic. This can be proved with the description of items loaded on Factor 3 (Appendix III). Details of these items re given below;

1 Most of the parents told that their children introduced few less healthy items to the family menu their own .Since they like eating these items and insist to eat quite often, parents had to accept it to some extent. Thus the daily diet of younger children has not remained under full control of parents any more.

2 Most of the parents agreed that the diet of their children is not as nutritious as it should be and is lacking many of the essential nutrients.

3 Most of the times children dominate the family purchase decisions of fast food items, soft drinks, potato chips, chocolate etc. according to their personal liking or disliking for the same. This shows that Children are more influenced by TV advertisements than the advice or recommendations of their parents concerning food and beverage (F&B).

Factor 4: Lax Advertising Rules

Research further confirms that Advertising Laws in India are not effective enough to exercise control over advertisers and companies influencing younger children. Lack of understanding among kids below eight years of age is a critical concern because the most common products marketed to children are sugared cereals, candies, sweets, sodas and snack foods. Such advertising of unhealthy food products to young children contributes to poor nutritional habit that is responsible for increasing unhealthy eating habits among Indian Children .Since there are no specific laws or body to monitor such advertising, this problem is stretching its roots very rapidly. Advertising laws enforced in India deal with all type of advertising not specifically advertising targeting younger children but if we look at European Countries and United States, the need has very well been recognized and specific laws have been framed concerning the same issue.

Suggestions

1 1.Law and Policy maker must take a note of the situation and should restrict advertising primarily directed to young children of above three years and under twelve years by enforcing legal regulations concerning specifically this issue.

2 Government need to take effective steps to better protect young children from exposure to advertising because of the inherent unfairness of advertising to audiences who lack the capability to evaluate biased sources of information found in television commercials.

3 A separate body should be constituted to closely monitor the contents of TV advertisements aimed at younger children so that no wrong, biased or unhealthy message reaches to the target audience who can not judge these advertisements on such parameters.

4 Law makers should ensure that disclosures and disclaimers in advertising directed to children are conveyed in language clearly comprehensible to the intended audience so that they can easily understand the meaning and do not confuse.

5 Investigate how young children comprehend and are influenced by advertising in new interactive media environments such as the internet.

6 Policymakers should examine the influence of advertising directed to children not only through TV advertising but also in the school and classroom. Such advertising may exert more powerful influence because of greater attention to the message or because of an implicit endorsement effect associated with advertising viewed in the school setting. Strict rules must be framed to exercise control over advertisers and marketers targeting younger children.

7 Since food ads are largest category of ads to children and promoting unhealthy diet should be of concern to WHO and Health Ministries. Laws should regulate food ads aimed at children.

8 This area needs more research into how much foods ads influence children’s food preferences and choices.

9 National Laws to regulate ads to children should be framed separately. Ad regulations should take account of age of likely audience; younger children require greater protection than older children & teenager.

10 Cross-border advertising-broadcasters should be obliged to observe national rules of receiving state where the target audiences are citizens of that state & the programmes/ads are in their language or with subtitles in their language.

11 Advertising regulation should prohibit misleading, unfair or excessive number of ads, particularly products or foods which discourage healthy eating habits.

12 Ads to children under 12 should be banned.

13 No ads during, just before or just after programmes for pre-school children.

14 There should be timing restrictions on amount of ads permitted during children’s programmes with stricter rules for contents of the same.

Conclusion

The study confirms that advertising does typically get young consumers to buy their products. From the results of the study examining product choices show that children recall content from the ads to which they’ve been exposed and preference for a product has been shown to occur with as little as a single commercial exposure and strengthened with repeated exposures.

Furthermore, study show that these product preferences can affect children’s product purchase requests, which can put pressure on parents’ purchasing decisions and instigate parent-child conflicts when parents deny their children’s requests. All such moves taking Indian younger children toward unhealthy eating habits that may last a lifetime and be a variable in the current epidemic of obesity among kids. In the absence of specific laws dealing with these issues, situation is gradually going out of hand. There is urgent need for voluntary and government pressure groups to seriously take note of the situation. The government needs to draft and implement laws that do not deal with advertising in general but are specific and relate to every aspect of advertising, especially those that target young children and pertain to food.

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Appendix I

Variable in the Analysis - Descriptive Statistics

Variable		Mean	SD
V1	My child can easily relate the Fast food Item/Soft Drink/Chocolate/ Potato Chips etc. advertised on TV and available in market	3.338	0.848
V2	My child likes a particular brand or flavor of Fast food/ Soft Drink/ Chocolate /Potato Chips	3.318	0.867
V3	My child prefers Fast food/Soft Drink/ Chocolate/Potato Chips to be packed in Tiffin box in place of traditional lunch items	2.460	0.948
V4	There are few food items which have been initially introduced by our child/children in our family and now these items fall under the category of family favorite food items	2.641	1.030
V5	I, never educate my child about the new arrivals in the Fast food/Soft Drink/ Chocolate/Potato Chips category during informal discussions	3.495	0.784
V6	My child's liking of a particular Brand/ Flavor / Item is highly influenced by the Cartoon Character or celebrity endorsing the same	3.939	0.935
V7	My child gets the information about new arrivals in the Fast food/ Soft Drink/Chocolate/Potato Chips category through TV adverts	3.864	0.990
V8	My child skips his/her lunch/dinner and prefers consuming Fast food/Soft Drink/Chocolate/Potato Chips	2.742	1.278
V9	I purchase favorite brand/Flavor of Fast food/Soft Drink/ Chocolate/ Potato Chips of my children from market	3.318	1.018
V10	My child tries the newly advertised Brand/ Flavor of Fast food/Soft Drink/Chocolate/Potato Chips at least once	3.545	0.885
V11	My child demands for the same brand of Fast food/ Soft Drink/ Chocolate/Potato Chips as he has seen his/ her friends, classmates and companions consuming earlier	3.601	1.030
V12	My child insists to purchase his /her favorite Brand/ Flavor of above mentioned items from the market and resists to switch over to another Brand/ Flavor.	3.247	0.904
V13	My child prefers Fast food/Soft Drink/Chocolate/Potato Chips to be packed in Tiffin box in place of traditional lunch items	2.439	1.073
V14	My child insists to purchase a particular brand/Flavor of Fast food/ Soft Drink/Chocolate/Potato Chips etc. because of an attractive free gift scheme along with the item	3.369	1.071
V15	Sometimes full nutrition does not reach my child because of excessive consumption of Fast food/Soft Drink/Chocolate / Potato Chips etc.	3.111	1.295
V16	My child can recall the advert as soon as he sees the Fast food/ Soft Drink/ Chocolate / Potato Chips in market	3.727	0.985

V17	My child keeps switching from one favorite Brand/ Flavor / Item to another looking at the choice of his /her friends, classmates or companions	3.298	1.074
V18	My child consumes Fast food /Soft Drink /Chocolate /Potato Chips on regular basis	2.576	1.198
V19	My child spends a larger portion of his/her pocket money on Fast food Soft Drink/Chocolate/Potato Chips etc	2.354	1.070
V20	My child sometimes dominates family food purchase decisions	2.561	1.081

Appendix II

Varimax Simple Structure Factor Loadings

	FACT1	FACT2	FACT3	FACT4
V1	0.121	0.713	0.093	0.388
V2	0.919	0.058	-0.061	0.001
V3	0.898	-0.071	0.078	-0.107
V4	0.048	-0.044	0.119	0.437
V5	-0.118	0.191	0.047	0.075
V6	0.089	0.258	0.189	0.272
V7	0.021	0.102	-0.110	0.409
V8	0.548	0.122	0.747	0.104
V9	0.091	0.169	-0.020	0.727
V10	0.455	0.347	0.100	-0.062
V11	-0.013	0.106	0.068	0.925
V12	0.008	0.040	0.096	0.203
V13	0.843	0.007	0.150	0.224
V14	0.586	0.459	-0.167	0.138
V15	-0.037	0.114	0.919	0.123
V16	-0.041	0.886	0.098	0.054
V17	0.260	0.150	0.106	0.307
V18	0.441	0.033	0.148	0.046
V19	0.510	0.145	0.141	0.458
V20	0.041	-0.043	0.486	-0.033

Appendix III

Variance and Proportions

Variable	Communalities		Variance	Proportion	Cumulative
V1	0.929	FACTOR1	3.787	18.9	18.9
V2	0.979	FACTOR2	1.864	9.3	28.3
V3	0.977	FACTOR3	1.859	9.3	37.5
V4	0.951	FACTOR4	2.434	12.2	49.7
V5	0.963	FACTOR5	1.612	8.1	57.8
V6	0.976	FACTOR6	1.802	9.0	66.8
V7	0.951	FACTOR7	1.451	7.3	74.0
V8	0.981	FACTOR8	1.238	6.2	80.2
V9	0.980	FACTOR9	1.108	5.5	85.8
V10	0.986	FACTOR10	1.052	5.3	91.0
V11	0.922	FACTOR11	1.077	5.4	96.4
V12	0.959				
V13	0.964				
V14	0.975				
V15	0.984				
V16	0.962				
V17	0.974				
V18	0.973				
V19	0.944				
V20	0.955				

Corporate Failure and Fraud: A Study on Satyam's Corporate Governance

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Abstract

Most modern public corporations across many countries in the world are based on the principle of separation of ownership and management control. Share holders as the owners of the firm bear all the risk and the managers as agents, make the decisions. Due to the fiduciary relationship, the managers are expected to take decisions in the best interest of the firm and its shareholders. Corporate governance is the name given to a set of mechanisms in achieving this aim and to ensure that interests of top managers of the firm are aligned with the interests of share holders and other stake holders. Effective corporate governance mechanisms are expected to regulate the relationships among the stake holders of the firm, monitor and control managerial decisions and prevent opportunistic behaviour of the mangers from benefiting themselves at the expense of shareholders. The number of failed firms due to inappropriate, opportunistic or malicious managerial decisions is increasing all over the world. Some famous examples include Enron, Lehman Brothers and Merrill Lynch. Satyam Computers of India, one of the largest and leading IT companies of India, has joined the ranks of these companies.

This paper is an empirical case based analysis of corporate governance practices in India based on Satyam Computers. The case of Satyam Computers not only proves managerial opportunism and failure of corporate governance mechanisms but also raises the question of adequacy and effectiveness of the corporate governance practices in India. This study discusses different corporate governance mechanisms, brings out the lessons learnt from the monumental failure of Satyam Computers and recommends measures that could prevent such incidents in future.

Key Words: Corporate Governance, Shareholders, Management Control, Fiduciary Relationship, Opportunistic Behaviour, Managerial Opportunism.

Introduction

Modern day corporations have become the growth engines of national economies all over the world. Corporations are creations of law. Corporation allows different parties like investors, employees, managers, creditors to come together and pool in their resources like money, effort and knowledge for mutual benefit. Corporate Governance refers to the management of relationships between different stakeholders of the corporation and also providing direction and guidance to the firm for effective performance. According to Mayer, corporate governance has been traditionally associated with principal - agent relationship problem, caused by separation of ownership and management. Corporate Governance brings in line the interests of the investors and mangers and ensures that the companies are run for the benefit of investors (Mayer, 1997). The modern corporate Governance however goes beyond this traditional role and encompasses the interests of all stakeholders including employees, customers, communities, the society and the country.

During the recent past, corporate failures due to poor governance have become all too common in most parts of the world. The list includes some of the world's once well known and top companies like Enron, World Tel, Lehman Brothers and Merrill Lynch. The latest to join the ranks of these companies is one of the India's leading software companies, Satyam Computer Services Ltd (Satyam).

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In this study we discuss the concept of corporate governance and different corporate governance mechanisms. We further analyze the case of Satyam and bring out the lessons learnt. Finally we recommend the actions that can prevent such events in future.

Corporate Governance

For-Profit firms can be divided into two categories, public and private firms. Private firms are ones in which the capital is provided by (shares are owned by) one person or a group, but not listed or traded on a public stock exchange and most importantly the owner(s) also manage the day to day affairs of the company. As the owners and managers are the same, they take decisions in the best interest of the firm. Whereas the shares of a public firm on the contrary, are sold to general investing public, listed on public exchanges and actively traded. Many modern day firms are public corporations. A corporation is a creation of law, an artificial person, and a legal entity which is separate from persons creating or managing it. Shareholders of a corporation have limited liability, which means that if the corporation fails shareholders lose their investment but will not be responsible for the remaining debts of the firm. According to Harvard University Professors Hansmann et.al (2004) the five common characteristics of corporations are, ownership by shareholders (investors), limited liability, transferrable shares, separate legal personality of the corporation and delegated management by Board of Directors.

The fundamental difference between the private and public firms is, though the shareholders of public firms are the owners of the firm, they are far removed from the day to day management of the firm, a role performed by professional managers. The managers are hired for their skills and capabilities to contribute to the success of the firm in achieving its goals and objectives. This means in corporation owners (investors) contribute the funds needed but do not have any direct control over the management or a say in the day to day functioning and decision making. For exercising the control, the shareholders elect their representatives known as 'Board of Directors', who are responsible for providing guidance to and control of managers.

Between the owners and managers, a 'Principal-Agent' relationship comes into existence, as one or a group of persons in the corporation (shareholders) hire another person or group (managers) for providing professional services to them. The shareholders become the principals and the managers the agents. This separation of ownership and management results in what is known as 'Agency' Problem. The principals (owners) apart from compensating their agents (mangers) for the services rendered also vest the decision making authority in them (Hitt et.al, 2009). The decisions taken and the actions of these agents are binding on the firm and the principals. In return the owners expect the managers to act in the best interest of the firm and its owners. The ideal situation is when the interests of these two groups are fully aligned and the agents work in the best interests of the principals. However this may not happen due to the clash of interests of the principles and agents.

Many times the interests of principles and agents might differ, agents may have goals that are different from principles or come into conflict with the interest of principals. For instance, if the firm has surplus funds (free cash flows), shareholders would like these funds to be distributed to them as dividends, which they can use to reduce or spread their risk by investing in other profitable opportunities, whereas managers may like to use these retained earnings for diversification, as the increased size of the firm may lead to additional compensation, bonuses and incentives and may also reduce the manager's job risk. On the issue of diversification, studies have shown that generally the shareholders prefer related diversification whereas the managers are more oriented towards unrelated diversification (Hitt et.al, 2009). Further managers perceive that they face a higher risk than the shareholders in case of less than desired performance of the firm as their jobs will be at risk, whereas shareholders have the freedom to dispose of their share holdings and invest in another lucrative investment opportunity.

In practice, the crux of the whole problem is that once the share holders invest in a firm, they have little or no control over how the firm is run or how the strategic decisions are taken. Because the decision making authority is with the managers, managers might also display what is known as 'Managerial Opportunism'. Managerial opportunism is 'seeking of self interest with guile or cunning or deceit' Managerial opportunism can affect the performance, financial health, survival and the growth of the firms and has a direct adverse bearing on the interests of stakeholders, most importantly, the share holders and the employees. The unfortunate thing is that there is no way for the shareholders to understand or predict as to which manger might exhibit opportunistic behavior (Goshal and Moran, 1996).

Corporate Governance is the name given to the set of mechanisms and processes in corporations that have been developed to ensure that the agents (managers) in a firm act in the interest of principals (and the organization) and also to control the managerial opportunism.

Defining Corporate Governance

Corporate Governance is a system which facilitates the control of activities and direction of the organizations by the owners of the firm. The earliest definition of Corporate Governance is from the Economist and Noble laureate Milton Friedman. According to him "Corporate Governance is to conduct the business in accordance with owner or shareholders' desires, which generally will be to make as much money as possible, while conforming to the basic rules of the society embodied in law and local customs (Ahmad et.al, 2009)". According to Sir Adrian Cadbury (UK) corporate governance is "holding the balance between economic and social goals and between individual and community goals. The governance framework is there to encourage the efficient use of resources and equally to require accountability for the stewardship of those resources. The aim is to align as nearly as possible the interests of individuals, corporations and society. The incentive to corporations is to achieve their corporate aims and to attract investment. The incentive for states is to strengthen their economics and discourage fraud and mismanagement (Cadbury, 1992, University of Technology Sydney)". CalPERS of US define corporate governance as "the relationship among various participants in determining the direction and performance of corporations. The primary participants are: shareholders; company management (led by the chief executive officer); and the board of directors". Securities and Exchange Board of India (SEBI) defines corporate governance as the "acceptance by management of the inalienable rights of shareholders as the true owners of the corporation and of their own role as trustees on behalf of the shareholders. It is about commitment to values, about ethical business conduct and about making a distinction between personal & corporate funds in the management of a company." The Institute of Company Secretaries of India (ICSI) defines the concept in a comprehensive manner as "Corporate Governance is the application of best management practices, compliance of law in true letter and spirit and adherence to ethical standards for effective management and distribution of wealth and discharge of social responsibility for sustainable development of all stakeholders. (Ahmad et.al, 2009)"

The OECD provides the most authoritative functional definition of corporate governance. According to them "Corporate governance is the system by which business corporations are directed and controlled. The corporate governance structure specifies the distribution of rights and responsibilities among different participants in the corporation, such as the board, managers, shareholders and other stakeholders, and spells out the rules and procedures for making decisions on corporate affairs. By doing this, it also provides the structure through which the company objectives are set, and the means of attaining those objectives and monitoring performance. (OECD, 2004)"

Corporate Governance Mechanisms

The four corporate governance mechanisms that are in use in many countries are 1) Concentration of Ownership 2) Board of directors 3) Executive compensation and 4) Market for Corporate Control. (Carpenter and Sanders, 2009)

Board of directors: Board of Directors is the elected representatives of the shareholders that control the mangers and guide the functioning of the corporation. The board is headed by a chairman. Members of the board of directors can be internal, nominated from the top management of the firm or the external, people who are not connected to the corporation. In most countries legal framework stipulates the composition of board, on the number of internal and external directors. In India corporations are expected to have 50% outside directors. All over the world there is an increasing demand for reform in this area, to have more independent directors as they are expected to bring in objectivity, experience and will not be under the influence of the CEO. Independent directors are expected to be selected for their professional competence, knowledge, ability to guide the firm and promote the interest of share holders and other stakeholders without fear or favor. The independent directors are expected not to have any direct or indirect interests in the company or conflict of interest with the company, so that they can act in the interests of the company and shareholders. Further in the composition of board, most people want the separation of Chairman of the board and CEO roles, with different people occupying these positions. Having same person as CEO and Chairman is a very common practice in many Asian and European Countries, where as in US the norm separation of these duties. The argument is that if the same person holds both positions, the CEO (management) will be very powerful and board will not be able to perform its role independently and effectively. All over the world, there is a demand for separation of these positions.

Concentration of Ownership: One of the reasons for the managerial opportunism is impracticability of ownership (share holder) control of managerial decision making in corporations. In many public corporations share holders have small share holdings and are geographically dispersed. Research shows that where ever there is concentration of shareholders, they are in a better position to control the mangers and the firm. Large block shareholders (Holding more than 5% shares) are very common in Germany in Europe , Japan (Kirestu) and Korea (XX), but diffused and small shareholding is more common in US. Large block shareholders are in a position to influence the outcome of important decisions. This has dissuaded many small share holders in taking active interest or participating in the general body meetings. However in the recent past in many countries including US, Australia and Europe, small shareholders are forming associations with the aim of having a say in the management of corporations. In India typically most corporations are family controlled and most of these families control more than 43% of the stake in the company .

Executive Compensation: Executive compensation including perks, bonuses and stock options is another mechanism developed to control the mangers and managerial opportunism. As far as the stock options are concerned, the rationale is that mangers having ownership interest in the firm tend to work in the interests of firm and share holders. However this is a much debated issue and there seems to be no agreement among researchers on the effectiveness of this measure.

Market for Corporate Control: While the three mechanisms discussed above are internal to a corporation, this one is an external control mechanism. If the company has potential to do well and is not performing as expected by the market due to poor management, this would be reflected in low share prices. Low share prices and firm's good potential are the invitations for takeovers. The company that is taking over would get rid of the existing management and institute their own good management. Hence low performance of a potential firm poses the risk of takeover and consequently job risk to the managers. Hence mangers in theory are motivated to work in the interests of corporation and its stakeholders. Market for corporate control means control of corporation by the firm taking over.

Case of Satyam

As in December 2008, Satyam Computer Services Ltd (Satyam) was one of the leading information technology (IT) and global consulting services firm and was the fourth largest in India. Satyam established development centers in India, and many other countries including USA, UK, UAE, Canada, Hungary, Singapore, Malaysia, China, Japan and Australia. Satyam was providing IT services to a number of global businesses in a wide range of verticals and horizontals including Telecom, Infrastructure, Media, Entertainment, and Semiconductors. The company reported annual revenues exceeding US $ 2 billion for the year 2007. By any standards this was considered is a great achievement for a company that only started in 1987 with just 20 employees. Some of the awards won by Mr. Ramalinga Raju, the then chairman of the company include Ernst & Young Entrepreneur of the Year (2007), CNBC's Asian Business Leader – Corporate, Citizen of the Year (2002), Dataquest IT Man of the Year (2000), and the Ernst & Young Entrepreneur of the Year for Services (1999) (Dalal street, 2008).

Origin: Satyam, a software development and consultancy services firm was incorporated as a private limited company and a100% export oriented unit on June 24, 1987, by Mr Ramalinga Raju and his brother in law Mr DVS Raju. The company started operating from two locations in the state (province) of Andhra Pradesh, India, one at Mayfair Centre, Secunderabad, and other at Qutuballapur of Ranga Reddy Dist. and had 20 employees. Promoters Raju brothers were born in an affluent agricultural family in Andhra Pradesh. The chairman of Satyam and the principal promoter B Ramalinga Raju has impeccable academic credentials, an MBA from Ohio University, US and MBA from the Harvard Business School. Before entering IT industry, Ramalinga Raju dabbled in much other business such as manufacturing, construction, infrastructure, imports and exports

The growth: In 1991, Satyam Computers became the first Indian company to provide offshore services. Their first major client, John Deere of US was skeptical about outsourcing to Satyam, but Raju could convince the client. Then onwards for the next two decades Satyam was clearly on a growth path. The next important milestone for Satyam and Ramalinga Raju was converting this company into a public limited company on August 26, 1991 and going for an initial public offer (IPO) of company shares during 1992. Following IPO, the company has started operations at Hyderabad, Secunderabad in the state (province) of Andhra Pradesh and Bangalore in state of Karnataka.

From 1993 onwards Satyam's growth strategy involved mergers, acquisitions, joint ventures and strategic alliances. During January 1993, Satyam entered into a joint agreement with Dun & Bradstreet of US and established Dun & Bradstreet Satyam Software (P) Ltd. During 1996 Satyam set up two offices overseas, one in USA and other in Japan and developed new business partners in Australia, Canada, Japan and Europe. Further during this year the company promoted four subsidiaries. They are Stayam Renaissance Consulting Ltd., Satyam Enterprise Solutions Pvt. Ltd., Stayam Infoway Pvt. Ltd and Satyam Spark Solutions. The growth was so good and Satyam won the recognition from Switzerland-based World Economic Forum and World Link magazine as one of India's most remarkable and rapidly growing entrepreneurial companies. During 1998 Satyam Computer Services Ltd. opened its first overseas development centre in New Jersey, US and also proposed to establish seven development centers overseas out of which four of them were to be located in US. During 1999 Satyam Computer services merged its subsidiaries with the parent company.

During 2000, Satyam formed joint ventures with Venture Global Engineering LIC, USA (CAD/CAM/CAE development unit at Hyderabad), Vignette Corporation of the US (e-business applications), US networking company Computer Associates Inc (CA), partnership with SAS Institute India, (data warehousing and data mining solutions), a strategic alliance with Microsoft Corporation (Web and enterprise integration application deployment solutions to US public sector customers), strategic alliance with TRW Inc, (information systems and engineering services), US-based edatafinder.com(business intelligence), Mercator, the IT subsidiary of the UAE-based Emirates group (maintenance and support activities in the aviation industry), Ariba Inc. (business to business e-commerce). The highlight of this tie up is Mercator Satyam Centre' – exclusively handled US $60 million worth of projects for Mercator. Satyam Manufacturing Technology, a joint venture with US-based TRW, has also received a $200 million contract from TRW. The 2001 strategic alliances include Centre for Cellular and Molecular Biology of India (Bioinformatics and related fields), i2Technolgies. Satyam has become the first Indian software company to open facilities in Dubai (Internet City). Satyam has also expanded its partnership with Healthaxis Inc (Healthcare Technology), a global strategic alliance with SEEC Inc., a Pittsburgh-based firm (component and web services solutions for insurance industry). The notable achievement for 2002 is launching operations in China. The growth through joint ventures and strategic alliances continued during 2002 with an agreement with Saint-Gobain Abrasives, Inc a Massachusetts (USA) (IT services), Ireland-based IONAR (Web Services Integration). During 2003, Satyam was awarded contracts by World Bank (IT services), Jurong Technologies (Enterprise Resource Planning Solution), Giga Information (SAP).

The strategic alliances included Ansys Inc Forge (Engineering Simulation Solutions), Texas Instruments (Digital Signal Processing), Hummingbird (ETL/BI competency centre in Singapore), Microsoft (IT outsourcing services to Asia Pacific region), Yahoo, (Yahoo! Portal and Messenger platforms Solutions), World Bank, American International Technology Enterprises, Inc. The year's growth also include launching 'Global Solutions Centre' in Malaysia, development of a 120-acre technology campus located in Hyderabad, acquisition of Megasoft, and launching a new development centre in Canada. During the year 2004 Satyam entered strategic alliances with OATSystems Inc (radio frequency identification devices (RFID)-based solutions), Cyclone Commerce. The ninth facility in Hyderabad has become operational this year and also it's largest global development center at Melbourne, Australia. During 2005 Satyam entered into partnerships with ECG, Meridian Systems, Hungary's premier science IT institute MTA SZTAKI, and Miebach Logistics Group of Frankfurt, Germany (Supply chain and logistics solutions), and also joined Microsoft Insurance Initiative. During 2006, Satyam launched dedicated offshore Development Center Sony Europe's and also entered Egypt. During 2007 -Satyam forged an alliance with US-based JDA Software Group Inc., (Supply and demand chain solutions) (www.iloveindia.com, 2009; nt.walletwatch.com, 2009; en.wikipedia.org 2009).

At this point it appeared that the growth of Satyam is unstoppable and would continue for many years to come. The reported financial performances(Appendix I) made this company, a favorite with investing public and stock exchanges. This is one of the few companies that has gone for the American Depository Receipts (ADRs) on New York stock Exchange (NYSE). Apart from getting the finances needed for growth, the NYSE listing has also enhanced the firm's reputation internationally.

The Board as on 2008: The board of Satyam was comprised of 9 members. While Ramalinga Raju was the Chairman, his brother and cofounder Rama Raju, who was the managing director (CEO) was another member of the board. The board of directors comprised of 3 insiders and 5 independent directors. The independent members included Dr. Krishna Palepu, Harvard Business School Professor, Mr Vinod K Dham, technology sector specialist and a former CEO of a technology firm, Dr (Mrs) Mangalam Srinivasan, Academician, taught at institutions like Harvard and MIT, Dr Ramamohan Rao, dean of the prestigious Indian School of Business, Hyderabad and Mr. TR Prasad, Former cabinet secretary to the Government of India (Behan, 2009).

The Fraud

On January 07, 2009 Chairman of Satyam Ramalinga Raju shocked India and the world by revealing that company's financial statements of the past few years were false and the company books of accounts were cooked. According to him the revenues of the company were inflated and the liabilities under reported during 'past several' years, eventually resulting in inflated the cash balances on the balance sheet by US $ I.1 billion, as on January 07, 2008. He had also admitted to overstating Satyam's September 2008 quarterly revenues by 76% and profits by 97% (business.timesonline.co.uk, 2009).

According to his written statement:

a. The balance sheet of the company for quarter ending September 30, 2008 was inflated with non-existent cash and bank balances to the tune of US $1.102 billion or of Rs 5,040 crore (as against Rs 5,361 crore reflected in the books) and non-existent accrued interest to the extent of Rs 376 crore.

b. He also revealed that liability of Rs 1,230 crore (US $250 million) on account of funds arranged by him was understated. Further the company overstated debtor's position of Rs 490 crore (as against Rs 2,651 reflected in the books).

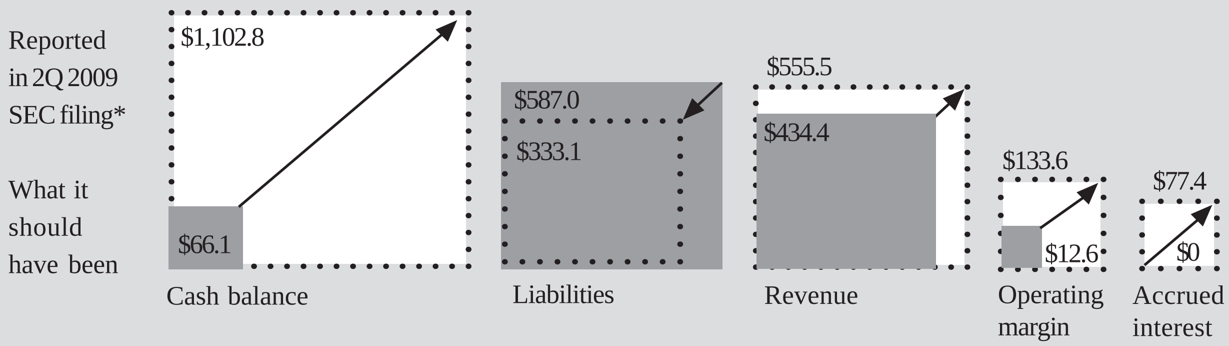
c. He admitted that for the September quarter alone, the company reported a revenue of Rs 2,700 crore and an operating margin of Rs 649 crore (24 per cent of revenues) as against the actual revenues of Rs 2,112 crore and an actual operating margin of Rs 61 crore (3 per cent of revenues).

d. This has resulted in artificial cash and bank balances going up by Rs 588 crore in Q2 alone.

e. According to him the gap in the balance sheet has arisen purely on account of reporting inflated profits over a period of last several years and what started as a marginal gap between actual operating profit and the one reflected in the books of accounts continued to grow over the years

'I am now prepared to subject myself to the laws of the land and face the consequences thereof.'
- Satyam Chairman B. Ramalinga Raju

Figures overstated in Satyam's financial filings
In millions of dollars



Note: Converted from rupees at the current rate * For quarter ending Sept 30
Sources: Mr. Raju's letter to the board; SEC filings

Source: http://online.wsj.com/article/SB123131072970260401.html **viewed on 03 Oct 2009.**

The cause: According to Ramalinga Raju, the inflated revenues and understated liabilities have lead to a gap of figures in the balance sheets, over the years. Since the time Satyam went public in 1992, the holdings of promoters started getting less and less. As on January 2009, the holdings of promoters were less than 8.5%. This made the company an attractive target for takeover. The only protection the promoters could have was high share price. Decline in share price makes the company an ideal target for takeover and according to Ramalinga Raju, the only way higher share price can be ensured is through good performance. As the performance was not as expected, the chairman cooked up the account books of the company over a number of years. According to him what has started as a small manageable gap in the initial years, has reached unmanageable proportions by 2008, with the difference reaching nearly US $1.2 billion. The only way to overcome this problem without the scam becoming public is filling up the shortfall between actual and inflated figures. According to Ramalinga Raju, his strategy to do this was to acquire 100% stake in Maytas properties and 51% stake in Maytas Infra, two real estate and infrastructure companies, promoted by his sons. By acquiring these firms and by deferring/ making fictitious payments, he thought of wiping out the gap between actual and book balances and be able to retain the control of the company. Accordingly a proposal had been placed in front of the board. The board including all independent directors had "unanimously" cleared the proposal on the ground that the margins in real estate businesses were higher than software business. M Rammohan Rao, dean, ISB in fact, chaired the meeting which had cleared the merger. This investment decision according to some observers was in gross violation of the Companies Act 1956, as its involved acquisition of other corporate entity that is valued at over 60 percent of its paid-up capital. Yet, Satyam's independent directors approved the acquisition, which many feel is inexplicable. In December 2008, SEBI also approved the Maytas investments.

However on the announcement of this unrelated diversification, the share price of the company has taken a severe beating both in India and US and the strong negative reaction from the shareholders and investors led to the withdrawal of the proposal on December 17. Meanwhile registrar of companies on December 21, 2008, was asked by the Government of India, to submit a report on Satyam-Maytas deal. These events lead to the resignation of independent directors in the following days. The first to resign was academician and independent director Mangalam Srinivasan on December 25, owning moral responsibility for not voting against the proposal to acquire Maytas, followed by independent directors Krishna Palepu and Vinod Dham on December 29 and Prof. Ramamohan Rao, on December 30. On January 2, 2009, Satyam disclosed to stock exchange that Raju and his family have pledged all their shares to institutional lenders. Between December 23 and January 07 five sales of shares pledged by Raju with various lenders were reported. The sales were from IL&FS, DSP Merrill Lynch, Deutsche Bank and HDFC Mutual fund. Subsequent to this sale as on January 3, Ramalinga Raju's stake in Satyam fell to 5.13% from 8.27% and by January 6, fell further to 3.6%. On January 7, Chairman Ramalinga Raju and MD Rama Raju submitted their resignations to the board. On this news share prices dropped sharply both in India and New York. Satyam's ADRs fell $8.42, or 90%, on New York Stock Exchange, which has suspended the trading subsequently. Raju's admission that he had fabricated $1 billion in cash and assets, according to reports has resulted in wiping out $2.2 billion of investor wealth (www.wsj.com, 2009; knowledge.wharton.upenn.edu, 2009, Bidwai, 2009; www.sharetipinfo.com, 2009; Economist,2009)

Consequently, Chairman Ramalinga Raju, CEO Rama Raju and the CFO Sreenivas Vadlamani have been arrested. The investigation into the issue by various agencies have uncovered that Raju has been spiriting away cash from Satyam from 2001, by resorting to practices like forgery, inflating expenses, stripping assets, and manipulating income, inventory value and profits. Satyam's auditors, Price Waterhouse, certified the account-books as correct and accurate without verification and failed to detect huge transfers of funds. Later investigations reveled that Chairman Raju siphoned away the money by opening up fictitious organizations and showing 10,000 fictitious employees in these companies. The happenings at Satyam shocked the shareholders, employees, customers, partners and the public in many countries including US and India. Government of India stepped in and instituted an interim board to manage the affairs, take stock of the situation, and to come out with some action plan to protect shareholders and employees. Eventually on June 21, 2009 Tech Mahindra, acquired controlling stake in Satyam and renamed the company Tech Mahindra Satyam (Business Week Online, 2009).

Discussion and findings

A common element of all crises is that they can harm organizational stakeholders such as consumers, employees, nearby communities, and the natural environment (Mitroff, Pearson, & Harrington, 1996). According to Alpaslan, Green and Mitroff (2009), inevitably, crises focus attention on corporate public, social, economic, legal, and ethical responsibilities and raise questions about 'how corporations should be governed and managers ought to act' (Freeman, 1994). An analysis of the fraud at Satyam computers shows the way public corporations are managed have an effect on all the stakeholders including shareholders, employees and also on the society at large.

The composition and role Board of Directors: On paper the Board of Directors of Satyam appears to be impressive with more independent directors who are such eminent people. But a close look tells a different story and shows lack of required skills on the part of independent directors. Not even one of them, according to the company's admission in Form 20- F submitted to Securities and Exchanges Commission had the necessary experience to be the 'Audit Committee Financial Expert' as legally required. The existence of an independent member with experience in audit might have prevented the fraud to some extent or brought it to light earlier.

The role of independent Members of the board: The sole purpose of independent members is to bring in objectivity to the decision making process. As they are not dependent on the CEO they are expected to function as watch dogs of shareholder and other stakeholder interests. However the independent members of Satyam Board have not fulfilled their fiduciary responsibility to the shareholders. When the proposal to acquire Maytas and Maytas Infra was made to the board, independence members should have scrutinised the proposal more deliberately, as the CEO was suggesting unrelated diversification. In fact the board was chaired by one of the independent directors, Dr Rama Mohan Rao when the proposal was cleared. This clearly shows the failure of independent members in fulfilling their statutory role.

Independent Members: Satyam Board had a majority of nonexecutive members, five of the nine directors are supposed to be independent. Independent members are expected not to have any kind of interest in the firm. But a closer look tells a different story. Dr Krishna Palepu, an independent director was receiving $200,000 annually for professional services from Satyam and hence can not be called independent.

Functioning of the board: In the aftermath of Raju's disclosure, the independent members tried to justify their role saying their judgements were based on the fact that the accounts were audited by a reputed firm like Price Waterhouse Coopers and they had no reason to suspect. This is not an acceptable argument. The BOD has a moral, legal and ethical obligation to ensure that affairs of the corporation are conducted according to law. In this regard the board of Satyam failed miserably. Though Mr Ramalinga Raju has accepted the sole responsibility for all the wrong doing, it is unbelievable that no other member of board is aware of the acts committed by the Chairman. This also means that the board has been simply rubber stamping the reports prepared by the Chairman and conducted themselves more as employees of the chairman, which in effect defeated the very purpose of the Institution of board of directors.

Separation of CEO and Chairman: On paper Satyam has divided the roles of the CEO and the chairman. However in reality they are brothers and family members. Had these positions been held by people without any common personal interests, other than that of the organization, this scam would have not happened or certainly would not have been of this magnitude. This underlines the need for separation of CEO and Chairman roles in corporations.

Concentration of shareholders: Concentration shareholding by the promoting families or groups is detrimental to the interests of the small shareholders. The scam in Satyam Computers came to light only because the shareholding pattern is dispersed and the shareholders rejected the Satyam management's proposal. If the management had the necessary majority control, it could have managed to get the majority approval needed for acquisition of Maytas and Maytas Infra, without revealing the scam to the public. This proves that concentration of shareholders in fact acts against the interests of small shareholders.

Market for Corporate Control: The managers are expected to take effective decisions and ensure good economic performance to ward of the threats of takeover. Satyam Computers is a negative example in this regard. According to Mr Raju, the chairman was living in a constant fear of takeover and hence resorted to this falsification of books of accounts. However the market for corporate control is what saved the company from certain liquidation.

Role of auditors: The big question is the role of auditors. PWC is one of the world's top auditing firms. The fundamental question is how falsification of books of accounts has gone on at Satyam for so many years without the auditors noticing any kind of irregularity. The auditors must make it clear to the authorities whether they were mislead or negligent or colluded with the company. This brings out not only the question of integrity of the auditors but also the question of following the legal and statutory provisions of the host country by the international

auditing firms. PWC has stonewalled the concerns of the society citing maintenance of professional confidentiality.
Role of regulatory authorities: A scrutiny of Indian legal framework concerning corporate governance shows that India is one of the countries with lax laws regarding corporate governance. In fact the major problem in India is one that of monitoring and implementation of the statutory legal provisions. Institutions like SEBI do not have the teeth or the necessary infrastructure to ensure effective implementation. Corruption and political influences also play a very important role. SEBI's approval of Satyam's application for acquisition of Maytas is case in point. Had the regulatory frame work been effective there is no way for management of Satyam to perpetuate a scam of $1bllion. The regulatory agencies that failed have in case of Satyam include (Price Waterhouse, the Indian subsidiary of PriceWaterhouseCoopers) the statutory auditor, Satyam's independent directors, the Ministry of Corporate Affairs, the Registrar of Companies, the Company Law Board, the Institute of Chartered Accountants of India, the Securities and Exchange Board of India (SEBI). Another example is even after so much of time; ICAI could not even censure PWC for its omissions and commissions.

Role of Stock Exchanges: During this entire saga, the stock exchanges were silent spectators. It is surprising that that no stock exchange in India or NYSE could find any thing suspicious in the financial reports being submitted by Satyam over so many years. In that sense the stock exchanges also failed in their responsibility to small investors.

Role of Government: The role of government does not end with the enactment of law. It also includes implementation and punishment of the defaulters. The slow and bureaucratic Indian legal system makes the cost of committing a crime less compared to the cost of remaining honest. Further in the Indian legal system, corporate crime is treated more leniently than other forms of the crime. Government of India must take measures where such crimes are dealt with expeditiously and the perpetrators are awarded exemplary punishments.

Recommendations for future

The following actions if implemented can prevent/reduce such scams in future.

Provide teeth to watch dog agencies: Securities and Exchanges Commission in US has prosecuted 600 companies in 2008 for wrong doing in US. This has not prevented all the scams, but certainly acts as a deterrent. There is an immediate need for watch dog agencies like SEBI to be more effective and making cost of committing crimes very high for potential offenders. Similarly institutions like ICAI or ICSI must have the powers to cancel the licence of professionals indulging in illegal activities or professional misconduct and they must use these powers.

Rotation of auditors: If corporations are made to rotate their auditors every year, the chances of uncovering wrong doings by companies will be much higher. It is recommended that company law be changed accordingly. Also test auditing or auditing review of statutory audit by independent auditors of a few companies on a random basis can help. Also different auditors must audit subsidiaries, if there are any. Further in place of a statutory auditor a board of auditors with the power to conduct surprise checks and audits may be included. It will help to have a pool of auditors with the government or other independent bodies like ICAI and allocating these auditors to different companies.

Composition of Board of Directors: CEO and Chairman of BOD roles must be divided. No one person or related persons or persons with common interests should be appointed to these positions. Independent directors must be selected by a committee than the chairman and must have a fixed term of not more than one or two years. While selecting independent members it must be ensured that at least one member must be from professionals having high level of knowledge in auditing or related areas, who can serve as a member of audit committee. At the national level creating a pool of eminent independent directors comprising of eminent people of high integrity and offering that list to the individual companies can improve the quality and independence of independent members.

Institutional nominees on the Board: Financial Institutions, pension's funds and mutual funds must have a nominee on the board. If needed they must pool in their shareholdings to get a nomination on the board. This will not only help their won interests but also that of small investors.

Employees' representatives on the Board: One of the most affected groups of people in this entire scam is employees. **H**aving an employee representative on the board can help reduce such scams in the future.

Appointment of Chief Financial Officer (CFO): It is strongly recommended that the CFO must be appointed by an independent audit committee. The CEO or the board must not be involved in the process of selection of the CFO.

Pledging of shares: Pledging of the shares by any promoter or board member must be notified to the SEBI and the stock exchange authorities immediately. This must be made a statutory requirement. This information must be made available to public including potential investors and shareholders, as soon as this happens. This will help in small investors or potential investor protection.

Whistle blowers: At present there are no incentives for blowing the whistle on scams in the corporate India. Further there is not much safety for those people who report the malpractices. Provisions must be included to protect the confidentiality of whistle blowers and also reward whistle blowers in such cases.

Conclusion

It is surprising that no one individual, auditor or supervisory organizations or government could notice the poor corporate governance practices at Satyam either in India or abroad. Satyam Computers Services during 2008, has been bestowed the prestigious awards, 'The Golden Peacock ' award for best practices in corporate governance and Corporate Social Responsibility award (UK trade and Investment s India business Award) (Current science, 2009). The real losers in this entire episode are the shareholders and employees. This scam has also tarnished the image of India in the international community. Individual greed and fraud in globalised environment can hurt not only the company but also the societies in many countries. Satyam computers is not the first corporate scam or the last one. However effective legal frame work and deterrents coupled with incentives for good corporate governance and following the best practices of corporate governance in letter and spirit can certainly have a positive effect on preventing or reducing frauds like the one perpetuated at Satyam.

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Appendix I

Reported Financial Performance from 2005 to 2008, Satyam Computers:

As of: Currency in Millions of Indian Rupees	Apr-02	Apr-02	Apr-02	Apr-02
	2005	2006	2007	2008
	Restated	Reclassified	Restated	
Revenues	35,208.40	47,925.90	64,850.80	84,734.90
TOTAL REVENUES	35,208.40	47,925.90	64,850.80	84,734.90
Cost of Goods Sold	21,050.90	28,949.60	39,714.30	53034.30
GROSS PROFIT	14,157.50	18,976.30	25,136.50	30800.60
Selling General & Admin Expenses, Total	5,314.90	7,081.10	9,433.80	12,040.30
R&D Expenses	28.8	24.5	12.9	15.2
Depreciation & Amortization, Total	1,133.00	1,372.80	1,484.40	1,635.90
Other Operating Expenses	104	162.3	267.6	310.3
OTHER OPERATING EXPENSES, TOTAL	6,580.70	8,640.70	11,198.70	
OPERATING INCOME	7,576.80	10,335.60	13,937.80	16,798.90
Interest Expense	-0.7	-23.9	-79.8	-137
Interest and Investment Income	10	1,162.40	1,672.60	2,706.80
NET INTEREST EXPENSE	9.3	1,138.50	1,592.80	2,569.80
Income (Loss) on Equity Investments	-94.5	-78.8	--	--
Currency Exchange Gains (Loss)	-2.1	-21	118.8	-134.5
Other Non-Operating Income (Expenses)	814.2	-42.7	-74.3	
EBT, EXCLUDING UNUSUAL ITEMS	8,303.80	11,331.60	15,575.10	19,200.70
Gain (Loss) on Sale of Investments	0	2,164.30	--	--
Gain (Loss) on Sale of Assets	-11.8	-9.3	-8.8	-18.2
EBT, INCLUDING UNUSUAL ITEMS	8,292.00	13,486.60	15,566.30	19,182.50
Income Tax Expense	1,175.60	2,074.80	1,520.10	2,303.60
Minority Interest in Earnings	--	5.5	1.2	--
Earnings from Continuing Operations	7,116.40	11,417.30	14,047.40	16,878.90
NET INCOME	7,116.40	11,417.30	14,047.40	16,878.90
NET INCOME TO COMMON INCLUDING EXTRA ITEMS	7,116.40	11,417.30	14,047.40	16,878.90
NET INCOME TO COMMON EXCLUDING EXTRA ITEMS	7,116.40	11,417.30	14,047.40	16,878.90

Source: http://investing.businessweek.com/research/stocks/financials/financials.asp?ric=SAY

Market Basket Analysis in the Library Circulated data using Apriori Algorithm

S. Kumar Chandar[1] Susan Babu[2]

Abstract

Librarian is a person located in the library building carrying out the task like acquiring, organizing, preserving the books to help the readers to locate the information needed by them. The new role of librarian is shifted by accessing information through world wide web, digital libraries and virtual libraries as interface designer, knowledge manager and en-user trainer. Market Basket Analysis algorithm has recently seen widespread use in analyzing consumer purchasing patterns – specifically, in detecting products that are frequently purchased together. We apply the apriori market basket analysis tool to the task of detecting subject classification categories that co-occur in transaction records of books borrowed from the college library. This information can be useful in directing users/librarian to additional portions of the collection that may contain documents relevant to their information need, and in determining a library's physical layout. The results can also provide insight into the degree of "Scatter" that the classification scheme induces in a particular collection of documents.

Keywords: Market Basket Analysis, Association Rule, Apriori Algorithm, Dewey decimal classification

Introduction

The lending service or circulation for home is regarded as the centre of activities in the library. The application of barcode technology in circulation system of a library is most successful due to its speed, accuracy and reliability. The barcode, in effect, acts as a unique control number, which is associated with a record giving appropriate details of individual items in a series of black bars of varying breadths and white spaces between every two of them. Barcodes provide ease of recognition by an optical device. These are read by a scanner, which sends messages to the computer that decodifies the number represented by the barcodes. In computerized circulation system the borrower presents before the counter assistant his library card and the book(s) to be borrowed. The circulation assistant inputs the identity number of the borrower through keyboard and activates his database record. Depending upon permissibility the document's accession number is entered in the computer and the book is issued to the borrower. The software supporting these barcode based Issuing/Returning systems produces vast amount of transaction data, typically captured in "baskets" (records in which the books selected by a given library user/students at a given time are grouped together). This data was quickly recognized by the librarian as having immense potential value in developing the library.

This paper explains a novel application domain for Market basket analysis in the library. The collected data in the library was processed for the implementation of the Apriori Algorithm (Agarwal and Srikant, 1994), with the goal of finding commonalities in the way that library users/ students borrow books across two or more subject classification categories. The association rule induced by apriori identifies basket co-selection patterns (Dewey decimal classification categories that tend to co-occur when several books are borrowed at a time). The Induced rules are useful in investigating the degree to which the classification scheme can be useful for self layout and in directing users to other, possibly relevant, portions of the library.

The paper is organized as sections. The second section describes the Dewey decimal classification system. The third section gives details of the Association rule (Apriori Algorithm); the fourth section discusses the

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association rules implementation and findings by Apriori from the library circulation data; and section five represents the conclusion.

Dewey Decimal Classification System

The laws of library science are practiced through the systematic arrangement of documents. It provides a panoramic view of books available in a library on a given subject along with those on closely related subjects. This help the user to identify and locate a document on a given subject wanted by him/her and can be quickly retrieved from and replaced to their original position. The discipline-oriented Dewey decimal classification (DDC) system is the most widely used classification system in the world. The DDC is built on sound principles that make it ideal as a general knowledge organization tool: meaningful notation in universally recognized Arabic numerals, well-defined categories, well-developed hierarchies, and a rich network of relationships among topics. In the DDC, basic classes are organized by disciplines or fields of study. The entire world of knowledge is divided into ten classes. Each main class is further divided into ten divisions, and each division into ten sections i.e.,ten main classes, 100 divisions and 1000 sections. The decimal fraction is a convenient device to show hierarchy of subjects and to expand a given subject further to give place to new subjects. The DDC has constantly been revised to keep itself current and useful in the face of knowledge explosion. The new edition (latest is the 22nd) also avails of the opportunity to delete obsolete numbers and to relocate inappropriately placed classes to proper places according to current thinking. The four volume set of DDC with its features such as synthetic device, add to device etc. help in the construction of the class numbers. The class number represents the subject matter of the document. The class number along with its book number and collection number forms the call number. Each book will have its unique call number and place in the shelf. The books are arranged in strict numerical order of their call numbers.

The Universe of Knowledge divided into ten major classes

spanning a range from 000 to 999:

000-099: General works (encyclopedias and similar works)

100-199: Philosophy and Psychology

200-299: Religion

300-399: Social Sciences

400-499: Languages (including dictionaries)

500-599: Natural science

600-699: Applied science / Technology

700-799: Arts

800-899: Literature

900-999: History, Geography and Biography

Each major category is further divided into nine sub-categories spanning a range of 10 to 90.

600 Applied science /Technology

610 Medicine & health

620 Engineering

630 Agriculture

640 Home & family management

650 Management & public relations

Each sub-category is further divided into nine specialized topics ranging from 1 to 9; where

657 Accounting

658 General management

659 Advertising & public relations

The hierarchy is denoted by decimals. Each sub-category is further divided into nine specialized topics ranging from 1 to 9:

658 General management

658.1 Organization and finance

658.2 Management of plants

658.3 Personnel management

658.4 Executive management

658.5 Management of production

658.7 Management of materials

658.8 Management of distribution (Marketing)

658.81 Sales management

658.82 Sales promotion

658.83 Market research

658.84Channels of distribution

The Dewey Decimal System is a hierarchical system, in which the arrangement of books on the shelves moves from the general to the specific.

Data Pre-processing

The circulation data can be acquired from the library environment. Each of the circulation data consists of timestamp, student identification number, book identification number, and call number (indicating the subject classification code and shelf location). Table 1 represents four lines of raw data collected from the library server.

Table 1: Library Circulation Data retrieved from the server log

12-Sep-2009	10.15	FK-0028: 519.5 GUP, F: 11
13-Sep-2009	11.43	FK-1026: 658.802 KOT, M: 35& 36
13-Sep-2009	15.12	FO-0009: 658.81 STI, S: 37
14-Sep-2009	12.21	FK-1010: 658.403.88 LAU, M: 28&29
14-Sep-2009	12.34	FK-1010: 001.420.18 KOT, R: 2&3

Timestamp and user id data were used to group multiple lines of data into baskets representing multiple books selected at the same time by the library users. The date and time are not used for analysis purpose. In this application the book identification is clearly too primitive to yield interesting results, as individual books in the library have very low circulation rates (rarely selected books are checked out only a few times in a year). After data pre-processing, the data in Table 1 was transformed as given in Table 2:

Table 2: Portion of Classification data

Book Item Number	Book Name
1	Fundamentals of Statistics
2	Marketing Management
3	Sales Management
4	Management Information System
5	Research Methodology

Association Rule Mining

Association rules are really different from classification rules except that they can predict any attribute, not just the class, and this gives them the freedom to predict combinations of attributes too. Association analysis finds interesting association or correlation relationships among a large set of data items. The discovery of interest in mining association relationships among huge amounts of business transaction records can help in many business decision making processes, such as catalog design, cross marketing and loss-leader analysis. A typical example of association rule mining is Market Basket Analysis. This process analyzes the students' selecting habits by finding association between different books that students place in their "Baskets". The discovery of such associations can help the librarian develop strategies by gaining insight into which books are frequently selected together by the students. For example, if the student selects SQL Server, how likely are they to also select Database Management System on the same trip to the Library? Association rules were initially defined on basket data. Association rules capture the co-occurrence of items or events in large volumes of transaction data in the library.

Selects (x, "SQLServer") ^ Selects (x, "DMBook") $\rightarrow$ Selects (x, "DBMiner")

Market Basket Analysis

The librarian of the college wants to learn more about the selecting habits of the students and "Which branch or set of books likely to select on a given trip to the library?" To answer these questions, Market Basket Analysis may be performed on the library. The results may be used to plan catalog design and shelf layout. Another strategy is that, the books are frequently selected together can be placed in close proximity in order to further encourage the selection of such books together. Each Basket can be represented by set of books as Boolean vector of values assigned to these variables. The Boolean vectors can be analyzed for selecting patterns that reflect books that are frequently associated or selected together.

The coverage of an association rule is the number of instances for which it predicts correctly- this is often called its support and confidence. Support is the percentage of baskets contains both the left-hand side and right-hand side of the association. Confidence is the percentage of baskets having the left-hand product, to the likelihood of finding the right-hand product in any random basket. The rule A=> B holds in the transaction set D with support s, where s is the percentage of transactions in D that contain $A \cup B$ (i.e., both A and B). This is taken to be the probability,

P ($A \cup B$). The rule A=>B has confidence c in the transaction set D, if c is the percentage of transactions in D containing A that also contains B. This is taken to be the conditional probability, P (B/A).

Support (A=>B) =P ($A \cup B$)

Confidence (A=>B) =P (B/A)

Rules that satisfy both a minimum support (min_sup) and a minimum confidence (min_conf) are called strong. The Association rule mining is applied in the library issued data and explained in two-step process

a. Find all frequent item sets: The item set consists of the list of books, which are selected by the library users/students.

b. Generate strong association rules from the frequent item sets: The rules are generated and satisfy minimum support and minimum confidence.

Apriori Algorithm

Apriori is the most basic and well-known algorithm to find frequent item sets in a transactional database. We consider in more detail an algorithm for producing association rules with specified minimum coverage and accuracy. There are two stages: generating item sets with the specified minimum coverage and from each item set determining the rules that have the specified minimum accuracy. (Table 3)

Join Step: C_k is generated by joining L_{k-1} with itself

Prune Step: Any (k-1)-item set that is not frequent cannot be a subset of a frequent k-item set

<u>Pseudo-code</u>:

C_k: Candidate item set of size k

L_k : frequent item set of size k

L_1 = {frequent items};

for (k = 1; L_k !=∅; k++) do begin

C_{k+1} = candidates generated from L_k;

for each transaction t in database do

Increment the count of all candidates in C_{k+1}

that are contained in t

L_{k+1} = candidates in C_{k+1} with min_support

end

return $\cup_k L_k$;

Table 3: Mining Association Rule

Transaction ID	Books Selected
FK-0028	1, 3, 4
FK-1026	2, 3, 5
FO-0009	1, 2, 3, 5
FK-1010	2, 5

Frequent Item Set	Support
{1}	50%
{2}	75%
{3}	75%
{4}	25%
{5}	75%
{2, 3, 5}	50%

Let minimum support 50%, and minimum confidence 50%, we have

- $1 \Rightarrow 3$ (50%, 100%)
- $3 \Rightarrow 1$ (50%, 66.6%)

For rule $3 \Rightarrow 1$: support = support ({*3*, *1*}) = 50%

Confidence = support ({*3*, *1*})/support ({*3*}) = 66.6%

Implementation & Findings

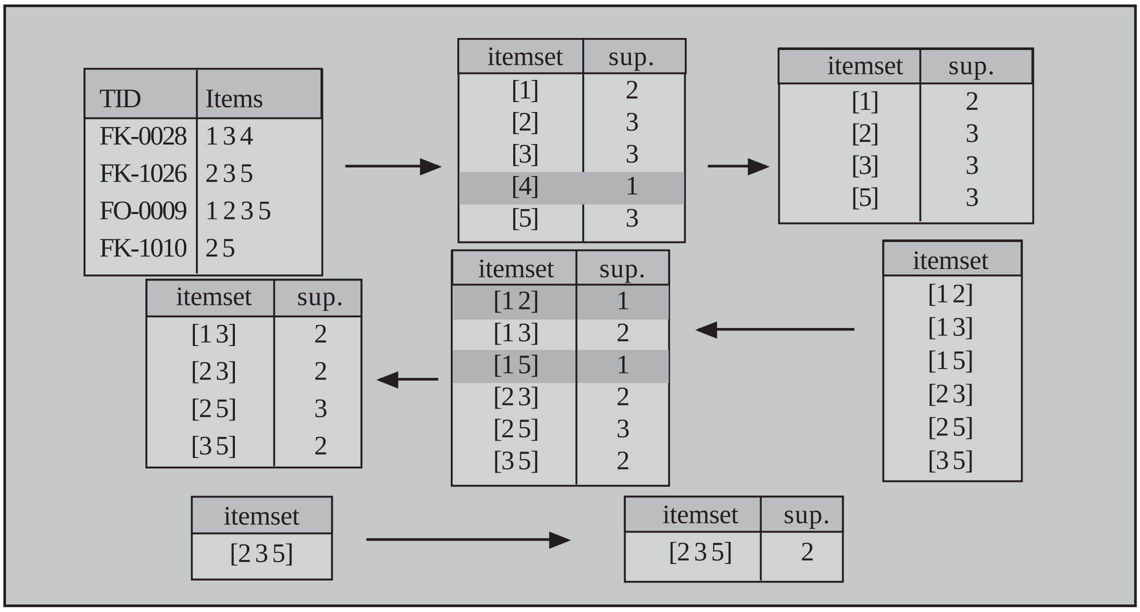

Figure 1: The Apriori Algorithm Implementation

Frequent item set generation

Scan D and count each item set in C_k, if the count is greater than minimum support, and then add that item set to L_k. (Figure 1)

Candidate item set generation

For k = 1, C_1 = all item sets of length = 1.

For k > 1, generate C_k from L_{k-1} as follows:

The join step:

C_k = k-2 way join of L_{k-1} with itself.

If both $\{a_1,..,a_{k-2}, a_{k-1}\}$ & $\{a_1,.., a_{k-2}, a_k\}$ are in L_{k-1}, then add $\{a_1,..,a_{k-2}, a_{k-1}, a_k\}$ to C_k.

The items are always stored in the sorted order.

The prune step:

Remove $\{a_1, \ldots,a_{k-2}, a_{k-1}, a_k\}$, if it contains a non-frequent (k-1) subset.

An example will help to explain how candidate item sets are generated. Suppose there are four -item sets – (1 3 4), (2 3 5), (1 2 3 5), (2 5). Let us look at a concrete example of Apriori, based on the Library transaction database, D, of figure 2. There are four transactions in the database, that is D=4. Figure 1 illustrate the Apriori algorithm for finding frequent item set in D.

1. In the first iteration of the algorithm, each item is a member of the set of candidate 1-itemsets, C_1. The algorithm simply scans all of the transactions in order to count the number of occurrences of each item.
2. Suppose that the minimum transaction support count required is 2. The set of frequent 1-itemsets, L_1, can then be determined. It consists of the candidate 1-item sets satisfying minimum support.
3. Next, the transactions in D are scanned and the support count of each candidate item set in C_2 is accumulated.
4. The set of frequent 2-itemsets, L_2, is then determined, consisting of those candidate 2-itemsets in C_2 having minimum support.
5. The transactions in D are scanned in order to determine L_3, consisting of those candidate 3-items sets in C_3 having minimum support.

Findings:

The library user/student who selected the book marketing management and sales management during the visit to library also select the book marketing research. This kind of analysis and findings help the librarian to observe the behaviour of the students and arrange the books based on the common interest in the library. Given the Library database, a data mining system may find association rules like

Selects (x, "Marketing Management") ^ Selects (x, "Sales Management") à Selects (x, "Marketing Research")

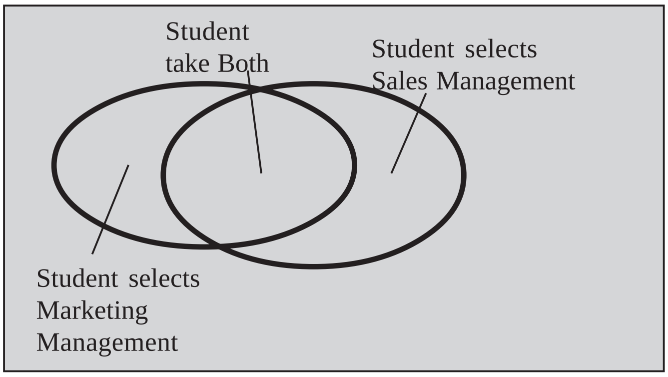

Figure 2: Venn diagram of Market Basket Analysis

Selects (x, "SQLServer") ^ Selects (x, "DMBook") → Selects (x, "DBMiner")

Age(x, "20-24") ^ PG Degree (X, "MCA") → Selects (x, "Database Management")

Conclusion

Association rules are often sought for very large datasets, and efficient algorithms are highly valued. The Market Basket Analysis techniques can be used in the library issuing data to detect subject classification heading that co-occurs in the transactions. The Association rule indicates borrowing patterns of the library users and helps the librarian to arrange and classify the library book layouts based on the interest of the library users. It is necessary to identify individual library users in order to aggregate behavioural patterns for entire group of library users. In practice, the amount of computation needed to generate association rules depends critically on the minimum coverage specified. The accuracy has less influence because it does not affect the number of passes that we must make through the dataset.

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Direct Marketing of Software Packages in Educational Institutions

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Abstract

In business to business transactions where trust is the mantra that brings together two organizations for a give and take proposition, direct marketing supports personal selling process. Direct marketing reaches the customers easily where personal selling is costly and time taking. There is a need for accounting, inventory and management software packages for corporate to run their businesses. Software industry provides an end to end solution for Corporate with a range of products and markets products directly to them. In direct marketing there is no role of intermediaries. Direct marketing creates product awareness in the minds of the clients and enables them to choose the category and range that is required to run their establishment. The present study describes the direct marketing strategies adopted by Softline Software Services, a company that has been catering to educational institutions. The two packages offered for this purpose are ARMS for Universities and INFOTRAK for schools and colleges. In this paper, we are focusing on customized software services offered by Soft line Software Services namely ARMS and Info track. The present study is predominantly based on secondary data.

Keywords: Direct marketing, Software packages, Educational Institutions.

Introduction

The growth of direct marketing can be attributed to environmental complexities and concept of bargaining power. There was saturation in several products of urban markets due to intense competition. The firm's cost of reaching out to the market and shelf cost at outlets also increased. This led the companies to rethink if there is a way to market products faster and more economically. Their answer was found in direct marketing that is more focused and target oriented than conventional marketing (Saxena R. 2006).

Growth of direct marketing is the result of many factors, such as higher cost of driving, traffic congestion, parking headaches, shortage of retail sales help, lines at check out counters all encourage at home shopping. Consumers appreciate toll free numbers and web sites available 24 hrs. a day, 7 days a week (Kotler, P. and Keller K, 2007).

Objectives

Following are the objectives to this study are

1. To give a theoretical overview and review of academic papers on direct marketing.
2. To give an overview of Focus Soft net ltd.
3. To study the software packages offered for administration of educational institutions such as Universities, Colleges and Schools
4. To compare ARMS and INFOTRAK software packages offered by FOCUS SOFT NET Ltd. for administration of educational institutions.

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5. To come out with observations and suggestions to improve customization of services in these packages.

Theoretical Overview of Direct Marketing

Direct marketing is an interactive mode of marketing through which the marketer reaches out to his target market at any location. According to Direct Marketing Association of USA (Saxena R, 2006), it is an interactive system of marketing which uses one or more advertising media to affect a measurable response and transaction at any location. This definition is considered to be more comprehensive as it contains three key elements namely:

1. An interactive system: There is a two way communication between the marketer and target market, the response or no-response of the customer completes the loop.
2. Measurability of response: The number of responses, enquiries, visiting customers indicates measurability of response.
3. Direct marketing activities are not location specific. It is not necessary for the client to interact directly with the marketer. They can establish contacts with the various tools of information to keep the transaction going.

Direct marketing can be practiced in many forms some of which are discussed below:

a. Telemarketing (telephone marketing): This method involves using the telephone to sell directly to customer; it is the major direct marketing communication tool .it includes both inbound & outbound telemarketing. Telemarketing is about direct selling; supporting the sales force; generating and screening lead; and building and updating marketing database.

b. Direct mail marketing is done through single mailing that includes letters, ads, samples, foldouts and also FAXES mail, E mail. Voice mail.

c. Catalog marketing is direct marketing through print video or electronic cataloging that is mailed to select customers and the products mentioned in the catalogue are made available in stores or presented online.

d. Direct response marketing: is an interactive technique of direct marketing via television, including direct response television, advertising and home shopping channels (Kotler, P. and Armstrong, G., 2006)

Review of Literature

Kim, Young Ae et.al. (2009) in their article on “A new marketing strategy map for direct marketing” highlighted the importance of direct marketing as a maximizer of customer value. Many cost-sensitive learning methods which identify valuable customers to maximize expected profit have been proposed. However, current cost-sensitive methods for profit maximization do not identify how to control the defection probability while maximizing total profits over the customer’s lifetime. Reinforcement learning is adopted as an algorithm to determine the sequential and optimal marketing actions. A marketing strategy map which helps a marketing manager identify sequential optimal campaigns and the shortest paths toward desirable states is designed. Ultimately, this strategy leads to the ideal design for more effective campaigns.

Sims J. Taylor and Herbert E. Brown (1979) in their article “Increasing the role of direct mail marketing and industrial marketing strategy” stated that direct marketing has long been a dominant factor in the distribution strategy of industrial goods and services. Yet frameworks for strategy formulation in this area are nearly nonexistent in the literature. Much that has been written focuses on successful techniques, such as how to use a specific type of sales letter to improve results.

Rao P. M. and Joseph A. Klein (1994) in their article on “Growing importance of marketing strategies for the software industry” examines the appropriability problem (i.e., the inability of firms to profit fully from their innovations) with respect to investments in intellectual property development in general and software in particular; evaluates marketing, legal, and technological dimensions of the appropriability issue in the global software industry; and concludes that increasingly firms will supplement legal mechanisms with investments in complementary marketing assets and development of marketing strategies aimed at strategic alliances and diversification into related services in order to enhance the appropriability of the fruits of their investments in software development.

Cale, Edward G., Jr. and Steven E. Eriksen (2002) in their article “Factors affecting the implementation outcome of a mainframe software package: A longitudinal study” predicts the likely short and long term outcome of an organization’s effort to implement an off-the-shelf software package is proposed and then field tested. The framework considers the initial fit of the proposed system from the perspectives of both the manager/end users and members of their information systems staffs. These findings lead to a strategy for software package evaluation and implementation. First, a thorough understanding of the impact of an application on its intended end-users is critical to successful implementation. Second, even in cases where an application fits well with user needs and capabilities, long term viability is also dependent upon a competent and capable information systems support staff.

Friedman Hershey H. and Linda Weiser Friedman (1987) in their article “Marketing methods for software” discuss several marketing considerations that are especially appropriate for software products. These include: the importance of focusing on customer needs, market segmentation, developing a marketing strategy, the software product life cycle, strategies for positioning a software product, selecting an effective brand name, new product development, pricing strategies, channels of distribution, promotion, and the use of direct marketing.

Research Methodology

This paper presents the results of the review of academic papers selected from different journals focusing on direct marketing of academic software packages. Data was collected predominantly from the secondary sources, such as books, Internet search engines and company websites. It compares two academic software packages namely ARMS and INFOTRAK.

Focus Softnet Pte Ltd.,

Focus Softnet Limited, found in 1992 is a premier business management software solutions provider. It integrates people and technology to deliver quality products and innovative solutions to customer’s problems.It has evolved into a multinational company, recognized for technical excellence and rapid evolution of solutions that deliver absolute value for money. It operates across 13 countries with a network of 21 subsidiaries with a view to enable production of customized solutions in short implementation cycles. It offers packages in ERP, CRM, Accounting, Inventory management, Academic/school/education software.

Focus provides a complete Business Accounting Solutions that helps the business to grow in a highly competitive environment and provides good quality and customer satisfaction. It helps the organization in automating the business processes suitable to there operations which increase the productivity and efficiency and provide solutions in client- server technologies, database maintenance, web based technologies, E- commerce, networks, financial accounting, etc. solution strategies include all critical phases of software development life cycle, languages and tools for analysis of requirements, detailed designing, coding, testing fine tuning the existing functionalities and implementations.

Business houses that purchase software packages in the form of direct marketing are bound to enjoy many advantages due to enhanced quality, technology, lowered prices to name a few. Apart from the above, marketers provide expertise to their clients in the areas of:

1. Facilitating company wide integrated information systems covering all functional areas
2. Performing core corporate activities and increasing customer service augmenting corporate image

3. State of Art Technical Base for handling big and long term projects
4. Deploying Online, Integrated and Web Based solutions
5. Implementation & Project experience on multiple business verticals
6. Experienced in Delivering Solutions On time and there by decreasing the lead time for ROI

The product ranges offered through direct marketing are

1. Complete ERP Solutions:
2. Modular Solutions – Financials, Inventory Control, Order Management, Fixed Assets Management, Project Management, Payroll and Manufacturing
3. CRM Solutions
4. WMS – Warehouse Management Solutions
5. POS – Point of Sale
6. ARMS – Academic Records Management Solutions
7. Travel Soft – Travel Management Solution
8. Customized Software Development
9. Technical and Functional Consultancy
10. Implementation Services – SAP & People Soft
11. Web Based Solutions
12. Info track
13. Intelligence

Educational Institution Management Software Package

That service providers of software companies have been providing comprehensive packages for business solutions is known to everyone. They were also able to make a breakthrough in education system and came forward with software solutions for effective running of universities, colleges and schools. Educational institutions must find ways to serve their students and faculty with finesse, balancing strict control with maintaining the culture of creativity, discovery and innovation. They also need to manage operations and increase efficiencies for better fulfillment of educational mission. Focus is a software product of Softline Software Services, a company that has been catering to educational institutions. The two packages offered for this purpose are ARMS for Universities and INFOTRAK for schools and colleges. In this paper, we are focusing on customized services offered by Soft line Software Services in these two software's namely ARMS and Info track.

Focus ARMS (Academic record management software)

Focus ARMS is a solution pioneered to attain world class standards in educational institution management. With an eye to details and in consultation with industry experts, ARMS stands as one stop solution for universities and educational institutions. Today Educational Institutions and Universities are facing problems in managing database of various activities they undertake. The facilities they provide to students needs to be professionally managed with accurate and timely reports for decision making. The various activities like Transportation, Academics, Administration, and Scheduling etc. needs database driven technology where records can be updated and viewed in real time. Universities generate large quantities of administrative records, including financial records, human resources records, correspondence, and many others. To meet these requirements there is a need of a comprehensive records management system. Focus - Academic record management software (ARMS) is designed to manage virtually every aspect of a University / Institutional requirements and also provides a medium for efficient material and equipment inventory control.

Benefits of Focus - Academic record management software (ARMS)

- Promote efficiency in the management of the Institute's information assets and safeguard this vital information
- Increase efficiency of the resource base
- Ensure compliance with regulatory guidelines
- Anytime and anywhere access of information for better decision making and to leverage the process

INFOTRAK

Infotrak, from Focus Soft net, is a Student Information System (SIS). Its primary purpose is to provide mechanisms for automated processing and tracking of student information for an educational institution.

Infotrack helps educators manage, analyze and report extensive data, while saving time by eliminating repeated data entry. It is a total solution for management of educational institutions, covering all the aspects of educational business, including administrative, accounting and academic activities.

Table 1: Comparison of Focus Infotrack and Arms

ARMS (Academic Record Management Software)	Focus Info track
MODULES i. Admission ii. Student Grouping iii. Scheduling iv. Registration v. Examination vi. Graduation	MODULES i. Administration ii. Library management iii. Academics • Student Information System • Admission and Fee Collection • Fee Structure • Student Receipt • Teacher's Information System • Attendance and Time Table • Certificates and forms • Hostel and Medical • Performance Analysis iv. Financial Accounting v. Payroll and HRMS management

ARMS – Customized Services of Software for Universities

The software used by Universities is ARMS software whose modules have been discussed below:

Admission Module: Admission module comprises of packages for enquiry tracking, automated correspondence, source of application, contact management, applications, transfer policy, academic advising, and web enabled application processing and test scores and prior educational history.

Student Grouping: Logins of group students based on joining date, test Scores, similar course completion, group registration and group scheduling.

Scheduling: Preferred course time, preferred instructor time, scheduling of groups of courses, and user-defined week days, user defined class timings, free/busy instructor report, preferred/maximum room capacity, user-defined room types and room inventory.

Course Registration: Web-based registration, user defined programs set (engineering, under graduate and post graduate programs and diploma courses), program plan of study (list of courses under each program), course pre-requisite validation, course co-requisite validation, class size validation and student advisor request/ approval

Examinations: User-defined tests, user defined grading schemes, examination scheduling, results entry, electronic ledger, semester-wise GPA/CGPA calculation and various analytical reports/charts.

Graduation/Convocation: Web-based certificate request, graduation roadmap, certificate generation, online alumni entry and alumni tracking.

INFOTRAK – Customized Services of Software for Colleges and Schools

The software used by Educational institutions, INFOTRAK software whose modules have been discussed below:

Administration: A flexible and complete database of all the students along with the photographs can be maintained with the facilities to sort and filter any kind of information using multiples queries.

Library Management: An advanced and efficient Library Management System can be provided. That maintains a complete database of all the books in the library in a sorted by subject and author. Information on all the books available, issued, returned, reservation and fines charged could be maintained using it. & you can even avail bar-coding system if it required. The reports output includes book history, card history, defaulters list, issues and returns, books availability report, books order/purchase, publisher/supplier information, inventory, label and card printing etc. All the reports can be filtered based on Book Title, Subjects, Author, Publisher, Rack No, and Topics etc. Separate identity for students, teaching and non-teaching staff, temporary membership, book allocation to classes and advance bookings can also be kept**.**

Academics: It maintains complete attendance, time table, and performance analysis details for all the students in your institution. It can create all the appropriate certificate and forms, thus reducing your administrative tasks.

Student Information System: Software package default applications forms the information related to the student such as student profile with photo scanning option, parent details, address with contact telephone numbers and email address, academic details, transportation details, fee details and other Information, 20 user definable fields can be added any time for any other information

Admission and Fee Collection: The software covers all the areas related to the admission and the management of fees that revels the break down of fees to minutest level: class-wise, section wise and student wise. Different fees structure for all the different no of class can be maintained in a very exclusive way.

Fee Structure: User definable fee structure can be made with the facility of discounts, fine and refund. The fee Accounts of all the students are updated automatically every Month/Term. Individual fee structure can be edited and any corrections required can also be done.

Student Receipt: The packages provide a flexible Students receipt screen with the facility of online balance, Ledger and sibling balances (balances of children of the same family). The receipt can be cash or a bank receipt. The receipt can be designed and printed in a user definable format using Screen designer

Teacher's Information System: This is another important feature where by one can completely keep a track record of all the number of full time, part time, guest teachers' etc working with the institution. With respect to the number of classes taken by them on daily, weekly, monthly basis, their performance assessment & complete information relating to them along with their photos can be maintained. This feature will also helpful at the time of allocating the periods to them class wise, subject wise, and simultaneously gives you the report.

Attendance: Attendance can be updated in regular intervals. The attendance information can be seen coupled with the examination performance of the students, which can give the authorities useful insight into student performance. Attendance can be taken sorted date-wise or subject wise.

1. **Detailed Report**

   This shows class wise attendance for a selected class period, day wise/subject wise, with present, absent, leave, total and percentage.

2. **Consolidated Report**

   This shows class wise attendance for a selected period, subject wise, with percentage in each subject. The above reports can be filtered on various criteria for analysis. Ex: List of students having less than 70% on attendance in a month etc.

Time Table: A flexible and efficient Timetable management system can create a complete setup with minimal data entry. Once the Subjects and Teachers are allocated, along with the class periods and class timing the timetable is auto-generated on various predefined constraints. The same can be edited as and when required. The time table can be output sorted by Class-wise, Teacher-wise, Room-wise and also for the entire School. Other reports output include free teachers list, busy teachers list, etc.

Transport Management: Basically in some of the educational institution who provides transport facility is another confusing task to maintain all the vehicles information, like their maintenance, routes, collection of transportation charges from the students depending upon the routes & kilometers etc. Infotrak helps you out in keeping a track of all such records.

Hostel and Medical : Educational institution who provides Hostel and Medical facility have the task to maintain all the infrastructure, students, facilities, employees, maintenance, collection of charges from the students depending upon the treatment and facilities etc. Infotrak helps you out in keeping a track of all such records.

Performance Analysis: These packages are exceptionally fast and consistent. Each can handle very large volumes of data and yet give all the reports required at the press of a key. Using powerful query analysis feature, the performance of an individual, class or whole institution can be analyzed within no time. All the reports can also be generated in various kinds of graphs and can be printed or send to an e-mail address. The marks screen is very flexible, user can define subjects, maximum/minimum marks and weight ages for examination that evaluates the result and grades. It also generates a user-definable marks sheet, performance analysis, statistics and study report with any combination of subjects and examinations. Unlimited number of reports can be generated with the powerful report writer using multiple quires, like the list of students who got more that 80% of marks in mathematics in annual examination, etc. Provision for printing progress report in user-definable format will be a unique feature which includes deviation of marks, median, highest scores, average scores etc. One can see graphs of their child's progress over a period of time to set the alarm bell ringing in case of student performance dips.

Financial Accounting: It comes with a fully online and integrated accounting module covering all necessary accounting requirements of an institution. A chart of accounts provided herein helps in user definable grouping of accounts. Invoicing and voucher printing is also be done with the help of a unique feature of Invoice & Reports Designers. This includes Day Book Receipts/Payments Register PDC Receipts/ Payments Register

Opening Balance/Journal Entries/Debit Notes/Credit Notes Register, General Ledgers, Cash Book/Bank Book/ Petty Cash Book, Fee collection report, Defaulter List, Debtors/Creditor Analysis, Aging analysis, Due Date Analysis, Sales and Purchase reports, Cash and fund flow, Bank reconciliation, Trial Balance/ Income & Expenses Statement/ Balance Sheet., all the reports come with comprehensive filtering options to extract the valuable information within no time & Integrated with Inventory & Order Management & HR & Payroll System.

Payroll and HRMS: Software package also covers areas related to payment of salaries to employees such as basic pay and allowances and other fringe benefits, employee details, their experience, qualifications, additional skills, and their address with contact telephone numbers and email address.

Observations

It has been observed the customization strategies adopted for each product is different.

1. The target market for ARMS software is universities where as the target market for Info track Software is schools, colleges etc.
2. Schools, colleges and universities use after sale customization when they launch a newer version of the same service. This is because the cost of the latest service and technology used is low when compared to the previous version
3. Another accounting package offered is Focus 6 which is used for other administrative purposes by Focus Company apart from ARMS software and Infotrack software for educational institutions
4. The educational institutions have been using other packages like Wings, Tally and Focus for administrative purposes. The competition is between the above three. Tally doesn't have ERP solution but others offer ERP solution.
5. The customization for ARMS is very high i.e. they use project development methodology because the education structure adopted by one university is different from that of other university. The schools and colleges have very few requirements of software modules. By using Focus-info track they can easily fulfill their requirements with minimum investment.

Managerial Implications

Service providers of software packages have been successful in satisfying clients with their customized solutions. However software industry is a sector where maximum customer satisfaction can be achieved by upgrading the versions. Clients even experience value for their investment because the more advanced and latest the technology is, the more economical it is for the client.

1. As computer services are a domain where continuous up gradation is possible and is the in thing, there is a possibility of further customization. As each educational institution is unique, special packages can be designed with differential price.
2. While the general information can be provided in a brochure and the net, the representative from the company has to be deputed to explain the intricacies of the package and the program so that the client is fully aware of what he is purchasing0 and the full utility of his purchase.
3. It is suggested that follow up is required to ensure that the client or the in charge of office is using software in proper manner. If help is required by them, it has to be extended voluntarily by the service provider.
4. Cost cutting can be done by following certain methods like reducing printing costs of catalogs by using four color processes. These savings can be extended to the client in the form of discounts and value added offers so that the client experiences maximum delight.

5. It is suggested that approximate price of the package and mode of payment can be mentioned in the catalogs so that clients are informed about the payment and are prepared if any tentative add-ons are required.

Conclusion

This paper is organization specific. It deals with comparison of two software packages in Education sector. Customization offered for different target market was studied and it's found that it differs for different products offered by the company. Marketing in Education software is increasing day by day, which if given additional care can lead to huge profits to suppliers and long run benefits clients. So marketers need to have a better understanding of customer requirements in terms of acquisition cost, maintenance cost and performance requirements of different clients such as universities, colleges and school as they have different needs.

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Mobile Banking: A Tool of Financial Inclusion

K. Martina Rani*

Abstract

Financial inclusion denotes delivery of financial services at an affordable cost to the vast sections of the disadvantaged and low-income groups. People in developing countries have less options for transferring money and accessing banking services, because there is less deployed formal banking structure: fewer branches and ATMs generally co-located to relieve branches, low internet penetration and easy access to fast and immediate sources of loans but at high cost. So a branchless banking channel using mobile phones could be far more preferable to poor people than the available options like travelling to and queuing at distant branches, forgoing their daily wages. Only about one-third of people living in developing countries have any form of financial savings with formal institutions. It is proven fact that it lowers the cost of delivery to banks in building and maintaining a delivery channel and availability of funds to customers of accessing services. Hence, the developing countries around the world concentrate more on implementing the mobile banking access to the unbanked mobile users, as a tool of financial inclusion, which is known as Transformational mobile banking. Hence the success factors for mobile banking in micro finance depend upon the mass customer adoption, utility of mobile service for cash-in and cash-out transactions, interoperability of providers, a country's defined proportionate regulation and the ability of service providers to meet the regulatory challenges.

Keywords: M-Banking,Technology, Vision 2020, Micro finance, Transformational Banking.

Introduction

Access to finance by the poor and vulnerable groups is a prerequisite for poverty reduction and social cohesion. This has become an integral part of India‘s efforts to promote inclusive growth. Financial inclusion denotes delivery of financial services at an affordable cost to the vast sections of the disadvantaged and low-income groups. The various financial services include credit, savings, insurance and payments and remittance facilities. The objective of financial inclusion is to extend the scope of the financial services of the organized financial system to include within its ambit people with low incomes. In India, through graduated credit with the advancement of technology, the attempt is being made to lift the poor from one level to another so that they come out of poverty. One such technology used prevalently all over the world especially the most appropriate one for the developing countries for the alleviation of poverty, as financial inclusion project, which formulate the strategies for low transaction cost is mobile banking.

The mobile banking services like M-Pesa of Kenya, GCash of Philipinnes and Easy Paise of Pakistan provide a greater learning in the adoption of mobile banking as a tool of poverty alleviation. In India, as a tool of financial inclusion, few pilot projects on mobile banking services are being carried out in Andhra Pradesh, New Delhi and Karnataka. Hence, mobile Banking, a symbiosis of technology and financial services, is the hottest area of development in order to reduce poverty around world by reaching out to the unbanked[1] very specifically, the developing countries.

Literature Review

Department For International Development's (DFID) Focus Note 43, (2008) says that in a fast increasing number, policy makers and regulators in developing and transition countries are embracing "Transformational branchless banking", the use of Information and Communication Technologies (ICTs) and non-bank retail channels

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to reduce costs of delivering financial services to clients beyond the reach of traditional banking. The research by DFID was conducted on seven countries where policy makers and regulators find themselves on the frontlines of policy making about regulation of branchless banking targeted at the unbanked poor in Africa, South Africa and Kenya, in Asia, the Philippines, India and Pakistan, in Europe/Central Asia, Russia and in Latin America, Brazil. Despite the many dissimilarities among these countries and their situations, policy makers and regulators in the countries studied a common challenge: how to formulate proportionate regulatory policy that gives space for innovation and permits branchless banking to scale up safely.

Ivatury, Gautum and Mas, Ignacia[b] (2008) focused on smaller banks and Micro Finance Institutions (MFIs) that face a much higher cost-of-delivery because of the smaller transaction values they handle and the likely more remote and dispersed location of at least some of their customers. Their discussion assumes that the banks and MFIs have adequate back office and transaction switching capability and sufficient internal controls, whether managed in-house or outsourced. Without that, mobile banking is not possible because it is fundamentally a front end to a financial institution's information technology system.

Helms and Reille (2004) argued that interest rate ceilings are not likely to be a solution to the concerns of the policy makers. This is because they will retard the long term growth of availability of credit for the target set of borrowers as if formal financial institutions are not able to cover their costs, they would tend to exit the market. This in turn would result in increase in dependence of the poor on informal sources of finance. It, therefore follows that microcredit providers need to look at innovative ways to reduce costs, which would result in interest rates coming down in a sustainable manner. Hence, MFIs face the challenge of finding ways to reduce lending costs.

Mas, Ignacia[a] (2008), has developed a broad vision for financial inclusion, where payments can be easily made through an electronic network. What makes visioning such a payments utility possible is the technology we have today, which can be used to bridge distances, close information gaps, contain settlement risks, and generally reduce transaction costs. The paper outlines the main challenges for the mass deployment of branchless banking.

Mas, Ignacia[b] (2008) highlights that even where there is agency network with third parties to serve as their retails channels, banking regulations require banks to retain legal and financial responsibility for the actions of all its retailers. Banks can outsource its operations, but cannot delegate responsibilities. This naturally diminishes the banks' appetite for entering into such arrangements and fragments the universe of retailers into exclusive retail bank franchises. Banks may achieve lower costs, but these retail arrangements do not transform the nature of the problem. It remains difficulty and cost for banks to go after business where the volume of deposits is relatively low, either because of low population density or low income levels.

Morawczynski, Olga and Mark Pickens (2009), conducted ethnographic research on M-Pesa studying how people belonging to two places Kibera and Bukura support the mobile banking services. The research offers insight into how poor people use M-Pesa, its impact on their lives, and some unexpected consequences. Rapid adoption and frequent use of M-Pesa engendered a variety of positive outcomes, as well as unintended consequences. By partnering with financial service providers and mobile operators banks can play a significant role in mobilizing savings using mobiles as a tool of financial inclusion.

Puhazhendi(1995) studied the microcredit programme of the nationalized commercial banks in India and concluded that the intermediation of Non-Governmental Organizations (NGOs) and Self-Help Groups (SHGs) in the credit delivery system reduced the transaction costs of both banks and borrowers.

Sarah and Mas, Ignacia (2008) reviewed some of the bigger failures and some of the more promising experiences in the use of smartcards and mobile phones as payment platforms in developed countries. Their objective of the study was to extract some lessons behind the failures and the successes, although these developed country experiences may not directly translate into lessons that can be used in developing countries. Their study informs about what may or may not be possible and may or may not be different in the developing world context.

Tankha (2002) concluded that group formation costs are impacted by the number of groups handled by one field worker, transport costs, training costs and regional differences in average staff salaries due to differentials in local wage structure.

Research Objectives

- To study the components of cost involved in the mobile banking service.
- To understand the concept of transformational banking for low-cost microfinance which is the focus of developing countries at present**.**
- To analyze the regulatory challenges faced by the service providers.

Research Methodology

The paper employed the archival method of reviewing related literatures available -theoretical, applied and empirical to present the importance of mobile banking services as a tool of financial inclusion to eliminate poverty in the developing countries like India .

Mobile Banking Service

In low income, developing countries very few people have bank accounts. In India, the unbanked rural population is 619 million and the rural mobile users are 103 million. This lack of access to even the most basic banking service has serious economic consequences, like there is high proportion of small businesses have to borrow informally. The costs of supplying financial services by a bank or a MFI are high in rural areas. Often, these costs cannot be adequately covered through interest charges because usury laws or traditions prevent charging high rate of interest to clients. Therefore, banks and MFIs tend to reduce the quality and quantity of their services, which increases transaction costs for the clients. People in developing countries have less options for transferring money and accessing banking services, because there is less deployed formal banking structure: fewer branches, ATMs generally co-located to relieve branches, and low internet penetration. So a branchless banking channel using mobile phones could be far more preferable to poor people than the available options: travelling to and queuing at distant branches or saving in cash or physical assets. (Mas, Ignacia and Kumar 2008). Only about one-third of people living in developing countries have any form of financial savings with formal institutions. In many countries, this statistics remain stuck at a level that is far below that of other indicators of socioeconomic development access to education, vaccination programmes, sewerage, clean water system and so forth. (Mas, Ignacia 2008)

Ultimately, the mobile banking using technology is one of the modes of Branchless Banking and it has to enable the branch to go where the customer is present, instead of the other way around. Branchless banking, whatever be the mode, entails substantially the following two elements

1. Use of technology, such as payment cards or mobile phones, to identify customers and record transactions electronically and, in some cases, to allow customers to initiate transactions remotely.
2. Use of third part outlets, such post officers and small retailers, that act as agents for financial services providers and that enable customers to perform functions that require their physical presence, such as cash handling and customer due diligence for account opening.

The mobile banking is one of the newest approaches to the provision of financial services through information communication technology (ICT), made possible by the widespread adoption of mobile phones even in developing countries like Kenya Philippines and India, and under developed country like South Africa.

Mobile Banking and Transaction Costs

Mobile Banking has the great potential to extend the distribution of financial services to poor people who are not reached by traditional bank branch networks as it lowers the cost of delivery, including costs both to banks of building and maintaining a delivery channel and to customers of accessing services. (Ivatury, Gautum 2008). One indicator of the extent to which credit markets are constrained is provided by the gap between interest rates on formal bank loans and informal loans. In many developing countries, the cost of borrowing informally is extremely high which includes the cost of the funds; the cost of providing for loan defaults; and the cost of transaction (the costs of identifying and screening the client, processing the loan application, completing the documentation, disbursing the loan, collecting repayments and following up on non payment).

The transaction cost is defined in economic terms as comprising costs of search, information, bargaining, decision making, policy and enforcement. Applying this definition to the group micro credit transaction framework, transaction cost comprises costs of group formation, training, loan administration and monitoring. This cost is directly attributed to the particular transaction and hence is defined as "direct transaction cost". In addition, there are set-up costs of the branches and allocated costs of regional and head offices that need to be taken into account as they indirectly contribute to the administration of the loan. These costs are clubbed together under the head "indirect transaction cost".

Hence, in the indirect transaction costs, set up costs of the branches and regional officers can be avoided, if mobile is used instead of a branch. If we look into the components of cost of a mobile banking service, basically there are two types of cost capital cost and registration cost. It is impossible to offer mobile banking service without investing on sophisticated systems, infrastructure and equipment. This is the cost element that is most vigorously attack the service providers. Mobile payment operators are of the opinion that if they can cut this to the bone they will be able to deliver a cheap service. However many others believe in spending more on the installation so that the rest of the cost will be lower.

Registration costs include cost of preparing registration material, cost of the people required in support of the process and the marketing cost. This cost may be borne by a subscriber. The cost of a call center, support center, people that reset errors and technical support become the support cost. This is often under-estimated and sometimes escalate if the system selected is not meeting the need. This cost is always found the biggest cost. This cost is a recurring cost and should be balanced with capital cost. If the right investment is made in the beginning, operational support will be much less. Cost elements that are often not catered for, include the cost of compliance, the cost of fraud and theft, the cost of lost opportunities etc. System that does not work or allows loop-holes for fraudulent attacks etc. will ultimately be more expensive than others.

Hence the adoption of mobile banking service by banks, reduces their operating costs, by eliminating the need for costly call centres and customer service help. Using a mobile platform such as SMS text messaging for simple and repetitive tasks such as reminders about payments due or balance requests can reduce the burden on IT and personnel resources. Using secure and integrated messaging platforms means reducing the costs and errors associated with paper-based payments. The saving in the costs of microfinance loans to rural poor can be observed from the experiences of the mobile banking services- M-Pesa of Kenya, G-Cash of Phillipines, Wizzit of South Africa.

M-PESA of Kenya: There is no registration charges for M-Pesa and there is are no hidden charges or monthly fee. SMS is free to other M-Pesa account holders. To withdraw 100 ksh to 2500 ksh, (US$1.30073 to US$ 32.5182) [2] the charge is 25 ksh, (US$.3251) which is supposed to be lower than the cost of travelling to get the money from a bank's branch. No minimum balance needs to be maintained.

G-Cash of Philippines: In the Philippines, a typical transaction through a bank branch costs the bank US$2.50; this would cost only US$0.50, if it were automated by using a mobile phone. G-Cash requires only a mobile phone and a one-time SMS-based registration, with a minimal charge of U$0.02 (P1.00) per transaction. Subscribers can do their transactions at home instead of traveling several kilometers to rural banks to pay or do their banking transactions.[3]

Wizzit of South Africa: Wizzit does not have a minimum balance requirement and does not charge fixed monthly fee. It uses a pay-as-you-go pricing model, with charges ranging from USD 0.13 to USD 0.66 per transaction depending upon type. Customers are charged USD 5.26 to sign up.[4] Evidence suggest that total expenditure on banking charges by Wizzit customers is lower than for conventional bank customers; average expenditure in fees was typically about 20% less for Wizzit customers than for traditional banking customers on a like-for like basis. (Vodafone plc 2007)

India: In India, the State Bank of India, ICICI Bank Ltd, HDFC Bank Ltd and Corporation Bank have launched a series of mobile commerce initiatives such as buying air, rail and movie tickets, recharging mobile phone subscriptions, and making other utility payments in association with mobile commerce provider mChek India Payment Systems Pvt. Ltd, telecom service provider Bharti Airtel Ltd and Visa. The RBI-promoted Institute for Development and Research in Banking Technology in Hyderabad, in association with Rural Technology and Business Incubator (RTBI), a registered society of Indian Institute of Technology (IIT) Madras, have also joined hands to set up a Mobile Payments Forum. According to the forum, those banks who opt for the Obopay[5] service should settle fund transfers among themselves and at a later stage, if too many banks sign up for this service, RBI can designate one bank for a centralized payment system. In India, while the government incurs a transaction cost of Rs.12-13 for every Rs.100 of loan disbursement, mobile banking helps it reduce the cost to a mere Rs.2.[6] SKS Microfinance has developed a mobile banking imitative in partnership with Andhra Bank, in which customers use designated SKS banking agents to deposit money into Andhra Bank accounts and use a mobile phone to repay SKS microloans. As part of offering this channel for customers, SKS sells low-cost mobile phones to its customers and provides them a loan to finance the purchase. (Ivatury, Gautum 2008)

Apart from the reduction of cost, the mobile banking service helps to address two biggest problems of access to finance: the cost of roll-out (physical presence) and the cost of handling low-value transactions. A solution based on mobile phones can therefore substantially reduce the cost of spreading financial services over many retail environments, at least in areas with relatively high mobile phone penetration.

Hence, we can say that in a fast increasing number, policy makers and regulators in developing and transition countries are embracing “Transformational Mobile Banking”(reaching out to unbanked mobile users), the use of information and communication technologies (ICTs) and nonbank retail channels to reduce costs of delivering financial services to clients beyond the reach of traditional banking.

Transformational Mobile Banking for scalability

Only about one-quarter of households in developing countries have any form of financial savings with formal banking institutions: 10 per cent in Kenya, 20 per cent in Macedonia, 25 per cent in Mexico, 32 per cent in Bangladesh. (Deshpande, Rani 2006) Yet access to financial services, whether in the form of savings, payments, credit or insurance is a fundamental tool for managing a family’s well-being and productive capacity. To achieve universal access, banks will not only need to adapt their systems to a low-value, but also high volume transactional environment and to build more flexible, scalable retail networks of points at which people can conveniently pay into or cash out from their transactional accounts.

The developing countries around the world, concentrate more on implementing the mobile banking access to the people who are unbanked mobile users, known as Transformational Banking. Hence, transformational mobile banking is the provision of banking services using a mobile phone in such a way that currently unbanked people are targeted. The term was first coined to differentiate this type of offering from additive mobile banking options, where the mobile phone is simply another channel. If mobile banking extends financial access at sufficient scale to unbanked people then the retail financial sector of a country is likely to be transformed. (Porteous 2007)

One way to achieve transformational mobile banking is to use the Access Frontier Approach methodology to find the reasons for non-use of mobile banking service and finding the solutions to the issues. This approach seeks to distinguish use of a product or service from access to it, and seeks to understand the impediments which may prevent everyone from accessing that product or service. (Porteous 2007). Figure 1 depicts the methodology of Access Frontier Approach, which would help to identify the reasons for non-use and classify the respondents into five categories to draw information on the adoption of mobile banking financial services.

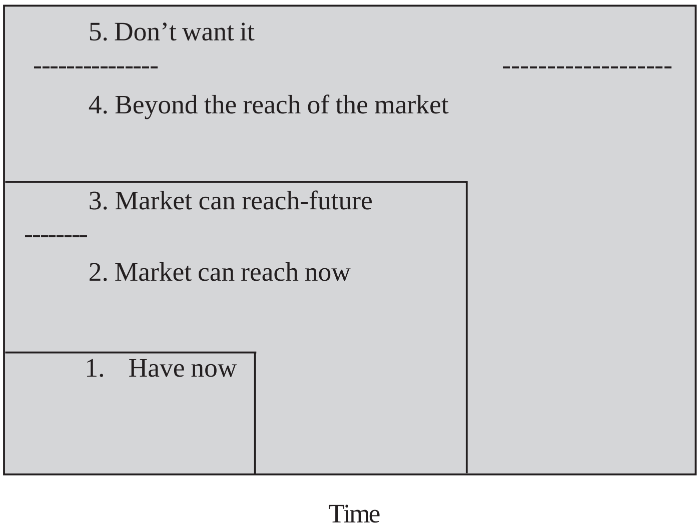

Figure 1: Market Map using Access Frontier Approach

The developing countries which seek to implement mobile banking and at nascent stage, this methodology is best suited to identify the reasons for non-use of mobile banking as it yielded greater results in South Africa, when a survey called FinScope was conducted by FinMark Trust on the unbanked people of South Africa in 2007. In the survey conducted, most unbanked people are unbanked primary for economic reasons which relate in part to their work status, inability for an account holding and, perceptions and choice of access to mobile banking. The conclusion drawn on this survey was that having a bank account relates to the value proposition of the mobile banking. (Porteous 2007). The survey revealed a fact that the propositions of convenience and safety are less appealing to the unbanked and mobile banking customers are much more driven than banked people in general by convenience, both in terms of deposits and withdrawals and in terms of making payments.

There are also few other studies made such as a study on South African mobile banking services and another on Canadian contactless cards, and both the studies concluded that "Relative Advantage" (value preposition) is crucial for consumers. Therefore it is evident that when payments or savings are to be made through electronic models, customers need to understand how they benefit by switching the positives and the negatives of the new system versus the old. This specific requirement on the part of customers can be taken as an area of focus by the banks/service providers. However, a question arises as to the meeting of regulatory challenges which of the parties involved in the service provision would yield results depend upon the regulations of that particular countries which allow the smooth interoperability of a bank or MFI, mobile network operator and a technology.

Regulatory Challenges

From Afghanistan to Zambia, policy makers and regulators find themselves facing the question of how to approach regulating technological financial service using mobiles. The mobile service value chain is a complex one incorporating wholesale arrangements between mobile operators and financial service providers on one side and the retail distribution network which serves customers on other. Be it wholesale arrangements or retail arrangements, the innovations are emerging outside the scope of financial market regulators. Hence in this area of regulatory agenda, there is high degree of urgency. The importance lies in the fact that right regulations during the early stages would capture the full benefits arising out of mobile banking services. (Vodafone group Plc. 2007).

Regulations in India: Mobile banking in India, viewed by the government as a potent tool for financial inclusion, is yet to clear many hurdles before it can fulfill its objective of reaching the unbanked masses. banks have been exploring the feasibility of using mobile phones as an alternative channel of delivery of banking services. Analysts say that the mobile density in tier II and III cities, is 11 percent and 10 percent respectively. With many banks offering mobile banking service, facilitate balance enquiry, stop payment instruction of cheques, record of last five transactions, location of nearest ATM/branch etc., the technology is relatively new to India and it is felt that due care needs to be taken on security of financial transactions and there has been an urgent need for a set of operating guidelines that can be adopted by banks.

The Reserve Bank of India (RBI) in 2006 announced that it would develop a regulatory and oversight framework for mobile banking, and made clear its concern over the safety of transactions through mobile phones. "The large scale spread of mobile telephony has opened up new vistas for banking in the form of mobile banking and the potential in this new sphere is enormous; adequate steps to ensure safety and security in a mobile based computing/communicating environment have to, however, be made." This statement was included in RBI's Financial Sector Technology Vision: 2008-2010. RBI expects mobile-based services to assume an ever greater portion of banking transactions in general and payment services in particular. Left unclear is whether such regulations would be developed in tandem with any changes to the use of business correspondents, or third parties doing cash-in and cash-out that provide the connection to the cash economy in which poor people live. At present, a limited set of entities can act as business correspondents, including section 25 companies, cooperatives and the post office, but not any for-profit outfits. RBI wants to ensure agents will not take advantage of low-income clients. And the latest guidelines were issued by RBI on 29th September 2008.

A study was conducted by Department for International Development (DFID) in 2008 over seven countries such as Africa: South Africa and Kenya; in Asia: the Philippines, India and Pakistan; in Europe/Central Asia: Russia; in Latin America: Brazil with respect to the regulation of branchless banking. The research found that despite many dissimilarities among the countries and their situations, policy makers and regulators in the countries share a common challenge: how to formulate proportionate regulatory policy that gives space for innovation and permits branchless banking to scale for innovation and permits branchless banking to scale up safely. Apart from this, there are other common challenges for any developing country like India, and the following issues can be added with the primary issue for proportionate regulation for Indian mobile banking financial market:

Eligibility: The banks are responsible for ensuring Know Your Customer norms(KYC), and must have Core banking systems in place. The services shall be restricted only to customers of banks and holders of debit/credit cards issued as per the extant RBI guidelines. Hence, combatable and a challenging core banking system and KYC norms are necessary to create a positive impact in the country.

Model driven Regulation: Mobile banking can be led by two different models, one is Bank led model and the other model is Non-Bank model. The regulatory significance of the distinction between the bank-based and non-bank based model lies in the fact that behind every transaction under the bank-based model, there stands fully prudential licensed and supervised financial institutions. However, in India, RBI focuses on bank- model where prudentially norms are necessary.

Proportionate Regulation: The risks vary as the mobile banking extends its service from payment to deposit taking. The proportionate regulation for each type of service may be necessary as it appears to happen in the

G-Cash of Philippines and M-Pesa of Kenya. A complementary lens for looking at proportionality in regulation of branchless banking, one that factors is the possibility of competing regulatory objectives, that appears in the "General Principles for International Remittance Services" jointly developed by the World Bank and the Committee on Payment and Settlement Systems of the Bank for International Settlements in Basel which is focus of institutions offering mobile banking services

High Cost Technology: Developing a solid management information system still remains one of the most important tasks facing Banks and MFIs, particularly those scaling up, because of the high cost and limited availability of existing technological solutions, lack of widely available local technical support to support MIS software, consumer adoption rates of technology, lack of basic communications infrastructure.

Trust through technology: Trust is one thing which is questioned in mobile technology and the technology-assisted processes is which comes to rescue for the banks to ensure confidence in the transaction carried out by a non-bank agent. But the trust through technology can be ensured by i. authentication of customers ii. A requirement that all customer transactions are immediately offset against the store's own transactional bank account and are subject to availability of funds by the store, so that no credit risk is involved at the point of transaction. (Mas, Ignacia and Siedek 2008)

Validation of customers: The RBI's guidelines call for a two-factor authentication for validation of a customer. The industry has reacted to this by interpreting that two-factor authentication can be supported only by GPRS and not through SMS. The two factor authentication does not facilitate financial inclusion since basic mobile phones owned by majority of people in rural India do not support GPRS. Due to lack of GPRS connectivity, Smart Trust applications, secure SMS based applications will be the prominent at least in the initial years of mobile banking.[10]

Collective Security Concerns: Security of financial transactions, being executed from some remote location and transmission of financial information over the air, are the most complicated challenges that need to be addressed jointly by mobile application developers, wireless network service providers and the banks' IT departments. Security applications will gain a lot of ground during the period 2009-12. These applications will include anti-theft and device recovery features via GPS.

One Comprehensive Application for All Mobile Handsets: A major challenge for mobile application development is the great variety of different target devices with different capabilities, features and restrictions. There are a large number of different mobile phone devices and it is a big challenge for application providers to offer mobile banking solution on any type of device. Some of these devices support J2ME and others support WAP browser or only SMS.

Narrow range of Agents: India permits only a narrow range of agents such as co-operatives, non-profit entities and the postal system to be used by banks as agents. In other countries like Kenya, Philipinnes, agents are free to innovate in agent selection and management. It results in customer adoption and increases scalability. At the same time MNOs do not stand responsible for negligence on the part of agents.

International Standard: The Financial Action Task Force(FATF) sets international Anti-money laundering (AML) and Combating Financial Terrorism (CFT) and oversees compliance monitoring. It calls for national-level regulatory regimes to adopt adequate Customer Due Diligence (CDD) rules. However, the experience of South Africa and the Philippines offers some encouragement to policy makers and regulators in other countries who want both a FATF compliant AML/CFT regulatory regime and branchless banking.

Conclusion

The mobile banking service is an important tool for a country's financial inclusion policy, as it reaches a country's rural poor faster than any other mode of transfer of funds by distributing the financial services to the unbanked rural poor who use mobile services as can be observed from the experiences of Kenya, Philippines and South Africa. The complexities involved in the growth of mobile-based banking services are the interoperability of players such as banks/MFIs, Mobile Network Operators (MNOs) and mobile-application providers, sophisticated technology and requirement of various regulations from different perspectives in the mobile banking system. The transaction cost involved in the mobile banking financial services is the main focus for banks and MFIs to render mobile banking service to the rural poor, and for the lower transaction cost, scalability is another factor to be focused which is the result of faster customer adoption, without which the mobile banking cannot be a tool of poverty elimination.

At present, mobile banking is the most needed one and most spoken about factors in the area of development in the banking sector as a whole and is expected by industry experts to replace the credit/debit card system in future. Hence the success factors for mobile banking depends upon the nationwide set of standard, education the poor and utilization of common platform for advertising interoperable services. In markets like India and Indonesia, where regulations prohibit mobile operators from entering the financial services space, banks have greater autonomy with regards to developing their own banking mobile platforms. India stands 29 in a list of 55 countries based on the country's performance in banking penetration, availability of the banking services, and the usage of the banking system. This shows that banks can use this platform to reach the unbanked through mobiles phones, and it would be an appropriate tool for India's Financial Inclusion Plan.

Further Research Direction

- Interoperability of Service Providers in Mobile Banking
- Customer adoption and Scalability in Mobile Banking
- Technology in Mobile Banking -Trust and Security
- Collective Security Concerns of the Providers
- Development of Proportionate Regulation

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This article is based on the paper presented in the Conference organized by Burgundy School of Business, Dijion, France at New Delhi.

End Notes:

1. The unbanked are people without formal bank accounts who operate in a cash economy; they are limited in their ability to take out loans, maintain savings, or make remote payments, and these constraints can inhibit their economic opportunities.
2. www.centralbank.go.ke
3. www.technology.cgap.org
4. Mobile Payments Forum of India-MPFI, a Working Group on M-Banking on 25th February 2009
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Figuring out the Best Change Management Strategy in the Domain of Information Technology

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Abstract

Change is the only constant thing in any arena of life and Information Technology (IT) industry is no exception. In this particular paper we have discussed the various techniques that are being used in the IT projects to tackle these changes that keep coming from time to time. Our work improvises on the different techniques available for software change management and derives a quantitative approach by calculating the overall effectiveness of each strategy and then comment on the best strategy among these using R-T Matrix.

Keywords: Information Technology (IT), Change Management, Overall Effectiveness of Strategy (OES), R-T Matrix, Best Strategy.

Introduction

Change management is the process that approves and schedules the change(s) in order to ensure the correct level of notification and minimal user impact. In general, in any project, the requirements are first fixed and then the development is done. But as we all know depending on the changes in the business environment, change requests are bound to come from the client side. Keeping this factor in mind, any organization follows a model to tackle these changes. The way different organizations handle these changes varies depending on various factors like domain, type of the change, cost of project, processes involved, need of modification of the structure, criticality of the project etc. This paper is an effort to try and find out the most suitable change management strategy applicable in the domain of IT.

Importance of the study

1 Our formulation is one of its kinds and till date no work has been done on this facet of software change management.

2 It compares the different models of IT change management available based on the mathematical formula derived by us.

Objectives of the study

The objectives have been set as:

1 To find the various parameters which immensely affect the success of a software change management strategy.

2 To come up with the respective weights that can be attached to each of these parameters by conducting interviews.

3 To design a mathematical formula on the basis of the weights which can be further used to compare different models of change management in IT projects.

4 To make a comparative analysis of the various Information Technology (IT) change management strategies from a quantitative perspective.

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5 To judge the best IT change-management strategy within the available options using the derived formula.

Research Methodology

To assess the best strategy of software change management followed in enterprise IT organizations, we conducted an anonymous survey through personal, electronic and telephonic interviews. This survey was conducted from during August-September 2009.

Sampling: Our respondents were professionals who are familiar with their IT sector's change management processes and who play the role of decision-makers when it comes to defining and implementing those processes. We had a specific group of people as the target of our survey and they were very difficult to reach at so we decided to use the '*snowball technique*' of sampling in which we had sent the questionnaire to our contacts working in the domain of IT and asked them to forward it to their contacts. Data was collected by sending e-mails to the IT-professionals who are working in or worked in various IT organizations. We had aimed to reach out to more than 150 professionals but we were able to collect the data from 91 respondents. The data were analysed using Microsoft Office Excel.

Literature review

Change Management: Change management is a scientific approach to deal with changes, from both the perspectives of an organizational and individual level. A somewhat ambiguous term, change management has at least three different aspects – including : adapting to change, controlling change and of course managing the change. For an organization, it only means implementing procedures and/or technologies to deal with these changes in the business environment and to earn revenue out of it.

Four main Strategies to facilitate change management: The main strategies to facilitate change management are (Nickols, F., 2003) Empirical-Rational (ER), Normative Re-educative (NR), Power-Coercive (PC) and Environmental-Adaptive (EA)

Empirical-rational (ER) Strategy: The basic assumption underlying the empirical-rational strategy is that individuals are rational and will follow their rational self-interest. Thus, if a good change is suggested, people of good intention will adopt the change (Nickols, F., 2003).

Normative re-educative (NR) Strategy: In the normative-re-educative approach, the individual is seen as actively in search of satisfying needs and interests. The individual does not passively accept what comes, but takes action to advance his/her goals. Further, changes are not just rational responses to new information but occur at the more personal level of values and habits. Additionally, the individual is guided by social and institutional norms. The principle of this strategy is that the individual must take part in his/her own (re-education) change if it is to occur.

Power-coercive (PC) Strategy: The power-coercive approach relies on influencing individuals and systems to change through legislation and external leverage where power of various types is the dominant factor. Power-coercive strategies emphasize political, economic, and moral sanctions, with the focus on using power of some type to "force" individuals to adopt the change [1].

Environmental Adaptive (EA) Strategy: The major consideration here is the extent of the change. This strategy is best suited for situations where radical, transformative change is called for. This strategy can work under short time frames or longer ones. However, under short time frames, the key issue will be of managing what could be explosive growth in the new organization and, if it is not adequately seeded with new folks, the rapid influx of people from the old culture can infuse the new organization with the old culture.

Analysis and Discussion

First we conducted a survey to find out the highly influencing factors for IT change management. We asked the sample population to point out top three success factors of their choice. The parameters as obtained from the survey include – ease of use by the target population, ease of expertise, less dependency on the experts, less degree of resistance faced while implementation and other factors like time complexity, domain independence and cost effectiveness. Of these we found that all the choices centre around only the first four parameters. Totally we received 91*3 i.e. 273 responses regarding the choice of the parameters. The first four choices comprise of 77, 73, 65 and 55 responses while the others received were only three individual responses. So we selected the top four success factors for our mathematical deduction. Figure 1 shows the results of the survey.

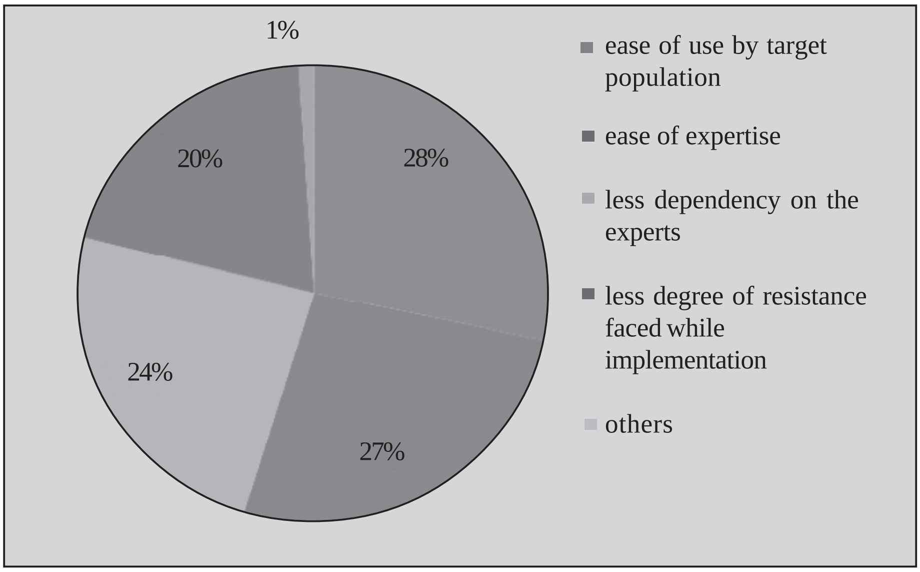

Figure 1: Choice of parameters

Parameters' weight analysis: We had taken into consideration only the first four parameters for deriving the formula because, the other three factors pose negligible impact on the success of any IT change management strategy. The different weights which can be attached to the top four factors identified for the evaluation of the strategies had been obtained by taking the average of the scores given by the respondents. Figure 2 gives a schematic regarding that. Here the parameters are rated on a scale of 1 to 5.

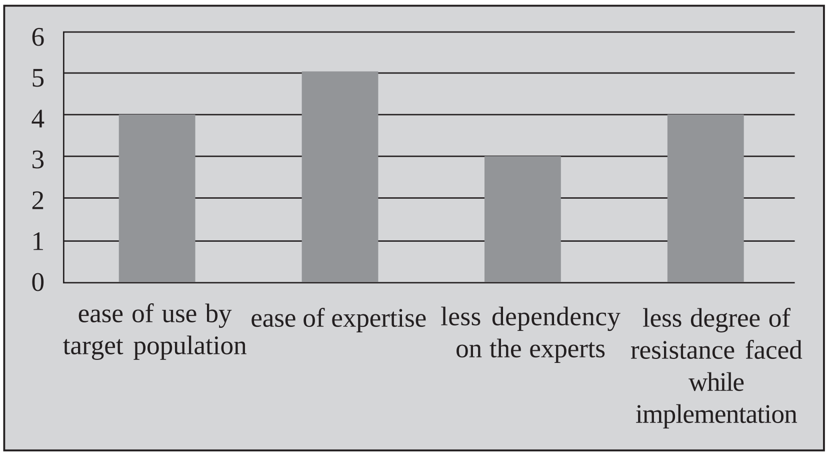

Figure 2: Weights of parameters

Arriving at the workable formula : On the basis of the above weights obtained from the surveys we deduced the following formula using which we have compared various IT change management strategies.

$$OES = (4*E1 + 5*E2 + 3*L1 + 4*L2)/16$$

where,

OES = Overall Effectiveness of strategy

E1 = Ease of use by the target population

E2 = Ease of expertise

L1 = Less dependency on the experts

L2 = Less degree of resistance faced while implementation

Explanation of the formula: The weights attached to the four parameters E1, E2, L1 and L2 are 4, 5, 3 and 4 respectively. So OES (as defined by us) which is the weighted average of the factors was calculated as a ratio of the weighted sum of the parameters and the sum of the individual weights of the parameters, i.e. 4+5+3+4 = 16.

Significance of OES

a. Higher the value of OES of a particular strategy, the better it is.

b. The value of OES can range from 1 to 5.

c. OES can never be 0 or negative.

d. OES is a dimensionless entity since it is a ratio of two quantities.

e. OES can help to analyze the effectiveness of a strategy on a quantitative scale.

Comparing IT change management techniques with respect to each parameter

Parameter 1: Ease of use by the target population: Regarding this, we came out with the following scores on parameter 1 for the different strategies. The scores are given on a scale from 1 to 5 (1 being lowest and 5 being highest). Figure 3 gives a schematic for the same.

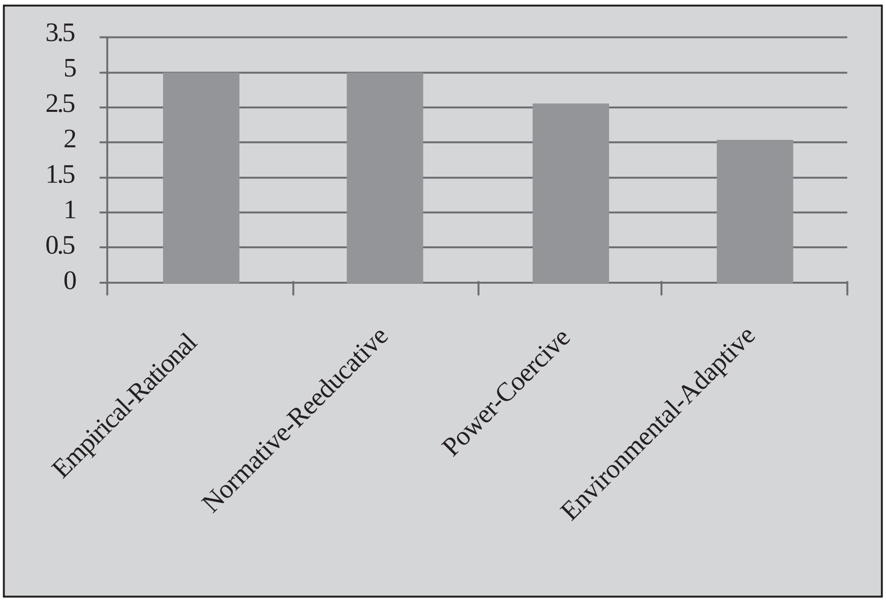

Figure 3: Ease of use by the target population

Parameter 2: Ease of expertise : Regarding this, we came out with the following scores on the ease of expertise needed for the different strategies. The scores are given on a scale from 1 to 5(1 being lowest and 5 being highest). Figure 4 gives a schematic for the same.

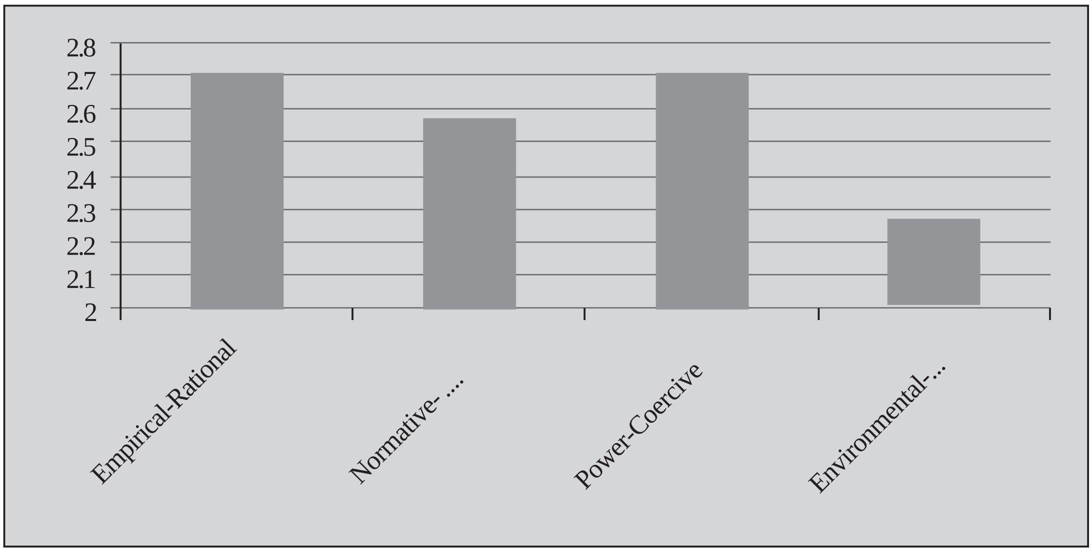

Figure 4: Ease of expertise

Parameter 3: Less dependency on the experts : Regarding this, we came out with the following scores on the less dependency on experts for the different strategies. The score is given in a scale from 1 to 5. Lesser the dependency, the higher is the score. Figure 5 gives a schematic for the same.

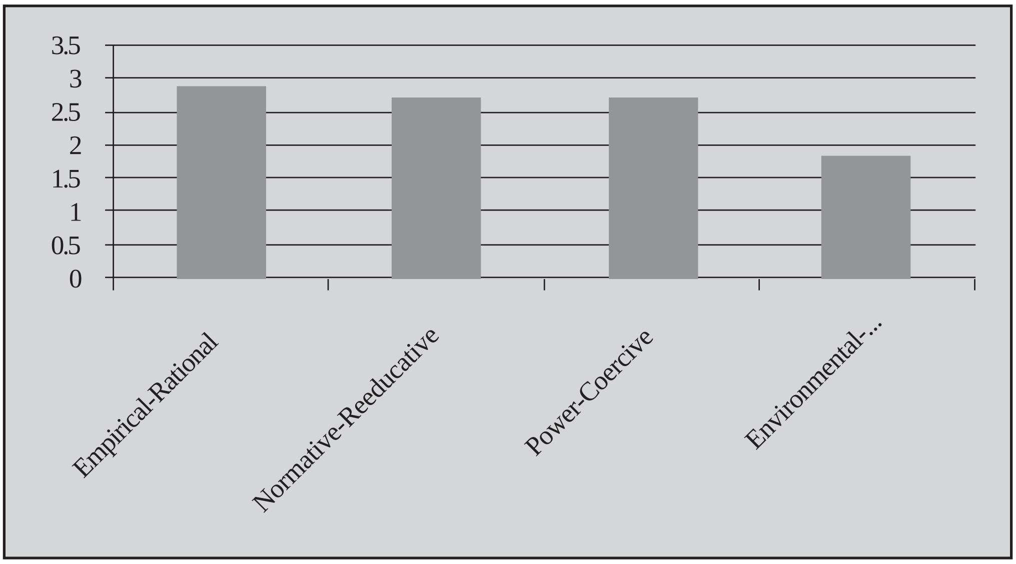

Figure 5: Less dependency on the experts

Parameter 4: Less degree of resistance faced while implementation : Regarding this, we came out with the following scores on the less degree of resistance faced while implementation for the different strategies. The score is given on a scale from 1 to 5. Lesser the resistance, the higher is the score. Figure 6 gives a schematic for the same.

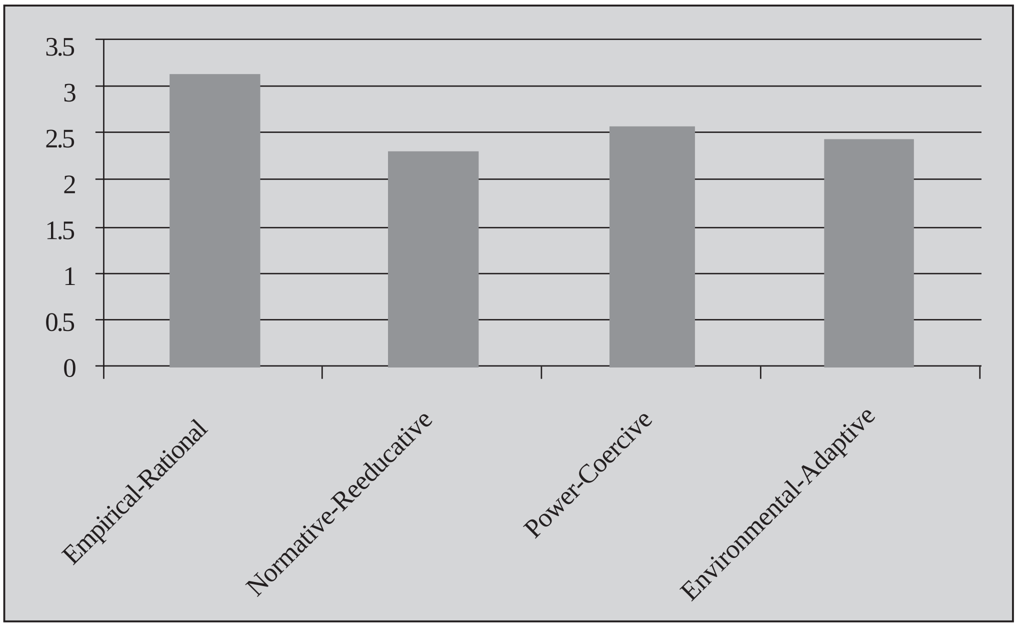

Figure 6: Less degree of resistance faced while implementation

The summary matrix

Table 1 gives the matrix form of the actual average scores of the four strategies under the four different parameters as obtained from the surveys.

Table 1: Summary Matrix

Parameters ↓ / Strategies	ER	NR	PC	EA
E1	3.00	3.00	2.57	2.00
E2	2.71	2.57	2.71	2.29
L1	2.86	2.71	2.71	1.86
L2	3.14	2.29	2.57	2.43

Here,

E1 = Ease of use by the target population

E2 = Ease of expertise

L1 = Less dependency on the experts

L2 = Less degree of resistance faced while implementation

ER = Empirical-Rational Strategy

NR = Normative-Re educative Strategy

PC = Power-Coercive Strategy

EA = Environmental-Adaptive Strategy

Findings

On the basis of the formula derived, we calculated the OES for the four different strategies of IT change management using the values from the Summary Matrix.

1 For Empirical-Rational Strategy

OES = (4*3+5*2.71+3*2.86+4*3.14)/16 = 2.918

2 For Normative-Re educative Strategy :-

OES = (4*3+5*2.57+3*2.71+4*2.29)/16 = 2.634

3 For Power-Coercive Strategy :-

OES = (4*57+5*2.71+3*2.71+4*2.57)/16 = 2.640

4 For Environmental-Adaptive Strategy :-

OES = (4*2+5*2.29+3*1.86+4*2.43)/16 = 2.172

We have tabularized in Table 2, the above OES scores for each of the four strategies in the R-T Matrix, with their corresponding values on scales of both 5 and 100.

Table 2: R-T Matrix

Name of the Strategy	OES value on Scale of 5	OES value scaled up to 100 [OES in column 2 * 20]
Empirical-Rational (ER)	2.918	58.36
Normative-Re educative (NR)	2.634	52.80
Power-Coercive (PC)	2.640	52.68
Environmental-Adaptive (EA)	2.172	43.44

Significance of the R-T Matrix: The R-T Matrix

1 gives an overall comparative analysis of the four strategies of IT change management. The scores can be easily converted into their respective percentage values for easy understanding.

2 gives a quick snapshot of the best available option among the four strategies. It provides a holistic quantitative view of the various qualitative aspects of the strategies. Similar approach may be applied to other industry domains as well, depending on the parameters.

Limitations of the study

Limited sample size considered. So there will always be a scope of revision of the results. For a bigger sample size, there may be some addition of other parameters. There may come up some more change management strategies, which needs to be considered for comparative analysis.

Conclusion

As observed from the R-T Matrix, on the basis of the OES values, we can state that Empirical-Rational Strategy is the best among all the options available for change management in IT industry. The Normative-Re-educative Strategy and the Power-Coercive Strategy are almost comparable to each other. The application of these two strategies may hence be inter-changeably used in the software industry, depending on the type and impact of the changes. The decision needs to be taken by the respective organizations. The Environmental-Adaptive Strategy scores the lowest among all. But it has its own application areas as well.

Scope for future research

The size of the sample frame that we have used is not huge. That's why; the formula which we arrived at is subjected to further testing. So, what we can suggest is that in future someone can take up our work as a base and conduct a similar survey for a larger sample size. Also, as it can be observed from the Summary Matrix, different strategies have scored high in different parameters. Thus we can suggest a new strategic model combining all the high scored parameters of these four strategies.

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Globalization and Economic Asymmetries: The Labour Factor

M. V. Rama Prasad*

Abstract

In this market driven and LPG model of economy, the human resource is nullified by snatching all weapons that it had previously. The labour around the world, especially in the developing economies, are disempowered on several dimensions. As there is a great decline in organised work force, degrading or disempowering trade unions, developing innovative ways to kill labour, there is a paradigm shift towards the days of bonded labour and imperialistic practices of 18th century. It is something like communist turns to democrats and vice – versa. There are few problems like informal labour, inadequacy of social security, changing dynamics of trade unions and apart from these , a series of events which influenced the quality of labour are: BPOs, measures taken for FDIs etc., Differences in economies occurred due to the effective and efficient labour regulations by some countries. Global asymmetries occured due to regional advantage.

The paper studies the gradual shift of HR practices in this fully changed and integrated global economy with domestic markets, highlighting the golden geese syndrome prevalent among MNCs and the paper suggests few measures to improve quality of labour and protection from the effects globalization.

Keywords: Globalization, Liberalization, Labour force,

Introduction

Post liberalisation has brought a sea change in the approach of this whole world to all the factors of production. Labour being one of the most important factors of production, also has been affected by the influence of globalization. The disclosure on labour in the era of globalization has therefore gone in several directions. That economic reforms can spell increasing hardships and inequalities for labour is not something that governments, particularly democratically elected governments, wish to publicly confront.

Impact on Organised Sector

The organized sector is defined as all public sector establishments and all private non agricultural establishments employing 10 or more workers. The lack of growth of jobs in the formal and organized sector of industry has been a much noted feature of the decades of 1980's & 1990's. One strand of opinion has held that rise in real wages as well as rigidities in the labour market resulting from policies that prevent market dictated hiring and firing which led to the employers freeze hiring and to move towards capital intensive technology. According to this school of thought liberalisation and globalization would not be significantly responsible for shrinking of jobs in the organized sector.

These, are on the other hand, few scholars who have rejected this view. Nagraj, one of the scholar in the area, has shown that in the major industries the compound growth of wage rate was either lower than the corresponding per capita income growth, or was not disproportionately large compared to it. In a period of declining bargaining power of organized workers and reduction in the number of organized sectors, unionised labour is unlikely to have secured a disproportionate rise in wage rate. Thus a rising wage rate could not be a factor in slowing down hiring. Among other factors underlining the decline in jobs in organized sector, Nagraj sites increasing competition in the product due to domestic liberalisation leading firms to attempt to cut labour costs. Other scholars have gone further and postulated a systematic relationship.

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Handsome productivity gains in manufacturing, particularly in China, Korea and Malaysia, drove up real wages in the 1990s, though the graph for south Asian countries in that respect has been flat or declining. But interestingly, the report finds that virtually no country (except Cambodia) created enough jobs in the industrial sector to make up for the loss of employment in agriculture as the sectoral composition of these economies went through radical shifts. For south Asia, and indeed countries like India that have made a shift from agriculture to services even as industry has expanded slowly, this highlights the importance of education in a labour market characterised by a high degree of correspondence between the level of education and sector of employment.

Tertiary sector workers in India, including the self-employed, casual labourers and those in formal employment, tend to have on the average the highest levels of education while agricultural workers have the lowest. Shortages of highly skilled labour being experienced in China and India from time to time, particularly in services, when seen in conjunction with the high degree of underemployment in the informal sector, are no doubt an indication that the sectoral ‘cross-over’ of labour is not proceeding so smoothly.

Impact on Informal Sector

The shrinking of the organized sector has been accompanied by the expansion of the informal sector. In principle, the large amalgam of men and women who eke out a living unprotected by a regular salary and job security, constitute the informal sector. This includes the large and amorphous category called the self employed daily wage laborers, as also those who are salaried employees but do not have job security wage revisions and other benefits. For the present purposes, our specific concern is with the contrast between informal and formal sector workers in industrial activities. It is indicates the rise in the number of workers in the unorganized sector of manufacturing and the wage differentials between formal and informal sector workers in manufacturing and construction. The world of informal labour and indeed the process of informalisation raise several issues in the contest of globalisation.

The problems of informal sector workers go beyond low wages to insecurity of jobs, long and in regulated hours of work, absence of accident and other insurance and soon. The question of wages ,however, is of particular importance, and here we take a brief look at this question with in a specific context, the economy of one state, Gujarat is considered to be one of India’s fastest growing states, industrial growth here being far above the national average. Gujarat also has a high record in attracting capital. This development has taken place, however, along side the massive erosion of Gujarat’s oldest and largest industry textiles. The decay of the textile industry, the displacement of nearly a lakh of persons from employment and consequent hardships borne by an estimated 3, 00,000 persons is widely documented.

The informalisation that occurred as a result of the displacement of thousands of displaced mill workers from their regular jobs is a part of the economic and social history of Gujarat in the last two decades. These twin features, the developmental achievements of the state and the informalisation of a large labour force has generated a debate which is relevant in the context of understanding the impact of globalisation on labour.

The development of the state’s economy, widely presented on having reversed the negative impact of the decline of the textile industry, took place largely on the basis of the tertiary sector’s growth. Trading enterprises, public and private banks, insurance offices and other financial institutions, professional service providers, institutes of higher education and comparison active in the new information technologies dominate the business districts. This development is reflected also in the development of new up market urban residential areas and the rising price of real estate. Lower income classes are visible in these areas as domestic servants, street venders, repair in and odd job men, cleaners, watchmen, and other menial services.

These facts would indicate that despite the development profile of the city which has taken advantage of newer technologies and increasing investments, overall there has been a little positive impact upon the informal sector where wages are low, work insecure and living conditions abysmal. This duality between a positive development profile and increasing immiserisation of the urban poor is seen in other locales too. Karnataka as Gujarat is seen to be an industrially advanced state, the state became the third largest recipient of FDI among major Indian states, accounting for nearly 19 percent of FDI approved to the top six recipient states. Karnataka's achievements on cutting edge areas of industrial activity such as IT and Biotechnology as well as the presence large number of multinationals are well known.

In the small scale industry sector (SSI) there has occurred a large number of closures. Declining employment in the organized sector is reflected in rising number of persons in the unorganized sector of declining employment in the organized sector is reflected in rising number of persons in the unorganized sector of employment. Workers in the unorganized sector account for 27 percent of 17.3 million workforces. Two sectors, which account for a large share unorganized sector workforce, are manufacturing and trade and commerce, primarily urban activities. The share of theses areas is as high as 71 percent. The presence of large number of workers in unorganized sectors in industry is reflected in Karnataka's poverty figures. In rural Karnataka, the decline is from 55 to 30 percent and in the urban areas from 53 to 40 percent. Thus poverty reduction seems to be more pronounced in rural areas. The number declined from 12.8 million to 9.6 million in rural areas whereas it increased from 4.2 to 6 million in urban areas.

The lack of growth in regular manufacturing employment, which has pushed large numbers into the informal sector of work, as also the crisis in the SSI sector which has displaced large numbers from their jobs are factors that have underlined deepening urban poverty in the state. Bangalore, known as silicon's valley, and the icon of India's developmental future in the popular imagination, has ironically experienced an exponential growth of slums.

Impact on Social Security

It is worth noting that the reduction in public sector employment has affected mostly the manufacturing sector. In absolute terms, of the 7.2 million workers added to organized employment, 6 million or 85 percent were absorbed in the public sector. On the other hand, there has occurred a total reduction of 1 million in the public sector manufacturing between 1991-95.Thus as far as manpower reduction in the public sector is concerned, the axe seems clearly to have fallen on the manufacturing units, largely affecting labour, rather than the public sector as a whole. This reduction has taken place gradually, mediated by the VRS and the consent of trade unions, rather than coercively.

In the private sector, profit making firms have rationalized labour through "golden handshake" schemes which constitute attractive compensation packages for redundant workers. In declining firms, closures and displacements frequently take place almost over night, illegally, and workers are displaced without getting severance compensation or even their due benefits. The key point here is that as far as the informal sector is concerned, whether these are workers displaced from the organized sector, or workers who have always been in the informal sector, public spending has shown no perceptible responsiveness to their plight.

The National Renewal Fund, floated in the mid 1980's was designed primarily to fund the refraining and redeployment of displaced workers. That the NRF has been primarily used for paying for compensation packages of surplus workers in the public sector is widely accepted. There have been no efforts to use the NRF for retraining and rehabilitation of displaced workers, particularly those in the private sector. While a special scheme for labour like the NRF has thus been ineffectively used in general the decline of public spending for social welfare has meant that labour has little to fall back upon in terms of state support thus as a proportion of GDP, the share of social sector expenditure has not increased during the reform period. Looking only at state government expenditure, taken as a proportion of GDP, or as a proportion of aggregate expenditure, social sector spending has declined.

Impact on Unions

The developments outlined above would indicate that unions have been by and large unable to stem the tide of policies and practices which negatively affect labour. The decline of unions in the era of globalisation is widely acknowledged. As the organized sector has shrunk, concomitantly the numerical strength as well as bargaining leverage of unions has been eroded. But the shrinking of numbers is only one factor that has underlined the weakening of unions. The last two decades have been a period when leftist and social democratic parties the world over have either turned definitely towards market oriented policies or have been unable to creatively redefine their ideological space in the context of the growing hegemony of the market. In other words, the left has not put forward viable policy alternatives to the market principle. In most cases this has meant a growing distance between leftist parties on the one hand and their traditional labour constituencies and trade unions on the other.

In India, although trade unions present a varied picture in different state contents, there is a certain systematic fund in the alienation of unions from political and ideological anchoring. In West Bengal where the CPI(M) – led left front has ruled now for 27 yrs, the CITU and the CPI(M) have differed over issues such as subcontracting, privatization, implementation of environmental norms and so on. The broader conflict of course lies in the fact that as government, the CPI (M) can no longer afford to support the kind of labour militancy to which it had given its leadership. The availability of large numbers of workers, who are unable to find regular, permanent employment, has fuelled the increasing use of contract/casual labour in industry activity. In Bangalore, an increasing number of multinationals have become the icons of liberalization and development. A case study of industrial disputes in three multinational companies in Bangalore revealed that, strikes failed primarily because the companies were able to use a reserve force of contract employees to substitute for the work of regular employees during the period of strike. The predicament of trade unions is particularly seen in situations where public sector units initiate labour rationalization process through the VRS.

A study of labour rationalization in three Bangalore based central public sector companies revealed the following although in principle opposed to VRS trade unions frequently find themselves providing tacit support to this instrument of labour rationalization. The situation presented by managers in public sector firms, is often in terms of a choice between VRS and privatization/closure. In such a context, union driven by the need to protect what they see as a threatened public sector has no option but to accept VRS or atleast not opposes its implementation in organizations. The gap between their principled stand against VRS and their reluctant support to it within firms reflects the disempowered situation in which trade union function in the current scenario.

On the one hand, privatization and disinvestments are opposed by unions as these are threats to the well being and job security of public sector workers. On the other hand, most trade unionists would acknowledge that the enormous public cost of a large number of public sector firm needs to be reversed. However, neither the left political parties, nor trade unions have provided a viable alternative policy perspective that could address the issues of public sector profitability as well as that of labour welfare. This intellectual/ideological disarray is an important factor in labour's disempowerment in the current context of globalisation. When the logic of the market appeals to have an increasingly powerful hold over the public political imagination.

Workers in the unorganized sector have low earnings and poor working conditions and lack social security protection. It is being realized that there is a need for social security programmes, particularly for neutralizing some of the negative consequences of the liberalization reforms. Besides, the case for any sort of changes to labour laws can be strengthened if all workers have atleast a minimum of social security. The state has a role in helping the poor in times of insecurity and in ensuring minimum security for those unable to gain from the post – liberalization economic growth process. The term social security in the developing countries is used in a much broader sense than in the developed countries. Amartya Sen and Jean Dreze distinguish between two different aspects of social security – protection and promotion. The protective – type programmes such as old age pension, widow pension, and survivor benefits provide a certain degree of support to persons facing specified adverse contingencies. India has so far relied on promotional measures such as self – employment and wage employment programmes, general health, and education.

There is, however, overlapping between the two measures. For example, the National Rural Employment Guarantee Scheme, which is one of the biggest social security programmes for unorganized workers, can come under promotional as well as protective measures. Although the coverage is not high, several State Governments have attempted to provide various protective social security measures for the unorganized poor. Kerala and Tamil Nadu took the lead in providing social security. A social security system in the form of the National Social Assistance Programme (NSAP) was introduced in 1995. However, the coverage of the National and the State level programmes is not adequate.

The National Commission for Enterprises in the Unorganised Sector was setup by the UPA Government under the Chairmanship of Arjun Sengupta in September 2004. The Commission prepared two draft bills: (1) Unorganised Sector Workers Social Security Bill, 2005, and (2) Unorganised Sector Workers (Conditions of work and livelihood promotion) Bill, 2005. They are likely to be introduced in the winter session of parliament with some modifications as the name suggests, the first Bill attempts to provide social security for the unorganized workers. It provides a model by demarcating clear responsibilities of Central and State Governments. Who are covered under the scheme? According to the draft bill, it will cover all workers in the unorganized sector with a monthly income of Rs. 5000 and below. This category includes self – employed workers (including marginal and small farmers), wage workers including agricultural labourers, and home – based workers. It also includes informal workers under the organized sector. It is estimated that around 30 crore workers are eligible under the scheme.

The Bill indicates that there will be a national minimum social security for all eligible worker covering four things: (a) health insurance; (b) maternity benefits; (c) life insurance; and (d) old age pension. Every unorganized sector worker is eligible for registration. The registered worker will get a unique social security card. The existing welfare programmes will continue as before. What are the financial implications? A. National Social Security Fund will be created. The Government contribution will be divided between Central Government and State Government in the ratio of 3:1 respectively (75 paise per worker by the Centre and 25 paise per worker by State Governments).

Similar to the Employment Guarantee Scheme, the National Commission estimated the costs of the minimum social security scheme. If all the 30 crore workers are covered, the contributions would work out to Rs.32, 850 crore. The share of the Central Government will be Rs.17, 548 crore and that of the State Governments Rs.5, 010 crore. This adds up to a total of Rs.22, 558 crore to be spent by Central and State Governments, equal to 0.8 percent of the Gross Domestic Product in 2004 – 05. If we include administrative and other expenses, the government contribution may not exceed 1 percent of GDP. Similar to the national EGS, full coverage is expected to be reached in five years.

The draft bill also provides an organizational mechanism for implementing the scheme. The Commission proposes to create a National Social Security Board, State – level Social Security Boards, and workers facilitation centers at the local level decided by the State Boards. The second Bill, which deals with conditions of work and livelihood promotion, addresses the issues relating to providing a basic minimum standard on hours of work, payment of minimum wages, bonded labour, and child labour. The Bill also recognizes some minimum entitlements of the workers such as the right to organize, non – discrimination in the payment of wages and conditions of work, safety at work – place, and absence of sexual harassment.

The Commission wants debate and discussion on the bills before they are introduced in Parliament in the winter session. There are several issues that need to be discussed. First, financial implications have to be discussed.

The Commission has estimated only the likely amount of funds from the contributions. The costs of providing health insurance, maternity benefits, life insurance and old age pension for the 30 crore workers are not clear from the Bill. The Government contribution in the first year (Rs.4, 512 crore) is not large but in the fifth year it is closer to 1 percent of GDP. As the draft says, tax or cess is one option for raising resources for the Government. The insistence on State Governments' contributions may create problems for the scheme as their finances are in bad shape.

Secondly, the Bill seems to be following the targeting approach for identifying beneficiaries. For example, the Bill says that it would cover all workers in the unorganized sector with a monthly income of Rs.500 and below. This may again lead to targeting errors and corruption.

Conclusion

On the part of multilateral institution which had led the globalization agenda, the recognition that reforms have a dislocating impact upon labour has been quickly channelised into a larger discourse over "Structural adjustment with a human face." And more specifically into policy discussions on social security. A central question has been ignored in a period of marketisation of labour is, disempowerment of labour on social security.

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Life Data Analysis: A Model for Product Reliability

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Abstract

In life data analysis, the practitioners attempt to make predictions about the life of all products in the population by fitting a statistical distribution from a representative sample of units. The parameterized distribution for the data can then be used to estimate important life characteristics of the product such as probability of failure during a specific time, the mean life of the product and failure rate. These parameters are arrived by using Normal, Exponential, Weibul and Gamma distributions. Generalized gamma model includes both Weibul and gamma models as particular cases. The range of the model is 'zero to infinity'. The life of a component in a system will always be a finite quantity. Hence it is more reasonable to think of truncated model for the inferential problems. This research is to provide a new model probability density function for life testing methods. The methodology is framing a probability function for the model and approximating the parameters by using maximum likelihood estimation method. The study widens the decision models with respect to reliability, warranty and after sales service of a product.

Key words: Life Testing, Truncation, Censored Samples.

Introduction

The reputation of a company is dependent upon the reliability of the product and services offer. The parameters for a customer to form the opinion are based on product quality. The reliability of a manufactured product is defined as the probability that it will perform satisfactorily for a specified period of time under stated use conditions.

Not performing satisfactorily implies failure of one or more components of the product. In all manufactured products there is a measure of reliability called failure rate. This can be the number of malfunctions occurring per unit time for continuously operating products or the number of malfunctions after a number of uses for on-off products. A concept related to failure rate is often used to more clearly specify or measure reliability. This concept is called the mean time between failures (MTBF). This is the average time that the product will operate before a failure will occur. MTBF does not include or represent any wear-out phenomena, only random failures.

Methodology for quantifying reliability was first developed for complex products. Suppose that a piece of equipment is placed on test and is run until fails, and the failure time is recorded. The equipment is repaired and again placed on test, and the time of the next failure is recorded. The procedure is repeated to accumulate the data. The failure rate is calculated for equal time intervals. When the failure rate is plotted against time, this rate varies in a predictable manner over the life of the product and can be considered as occurring in three different periods of the life of the product. This variation forms what has been called a bath-tub curve because of its shape. During the first period, so called infant mortality failures are usually initially high and decrease rapidly. The causes of these failures are such things as weak components, manufacturing flaws, etc. A burn-in period is often necessary so that these early failures do not occur during the use of the product.

The second period is the useful life of the product. During this period the failure rate is relatively constant and failures are caused mainly by stress. Depending on the make-up of the product in question, stress can be temperature, voltage, torque, humidity, etc. Obviously to be considered reliable some products must not fail at all during their useful life. A pacemaker, for example, is expected to perform without failure during its useful life.

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Essentially this means designing and constructing the product such that its mean time between failures (MTBF) is much greater than its expected time of use.

The third period in the life of the product is the wear out stage. The failure rate again climbs rapidly and is caused by the general physical and/or chemical deterioration with time or use of one or more of the principal components, or the general degradation of them all, such that the functioning of the product is unacceptable, e.g., my old car.

Life testing process involves making predictions about the life of all products in the population by fitting a statistical distribution to a life data from a representative sample of units. The parameterized distribution for the data set can then be used to estimate important life characteristics of the product such as reliability or probability of failure at a specific time, the mean life for the product and failure rate. Life data analysis requires the analysts to gather life data for the product, select a lifetime distribution that will fit the data and model the life of the product, estimate the parameters that will fit the distribution to the data, generate plots and results that estimate the life characteristics like reliability or mean life of the product. Product lifetimes can be measured in hours, miles, cycles or any other metric that applies to the period of successful operation of a product. There are different types of life data and because each type provides different information about the life of the product, the analysis method will vary depending on data type. With complete data, the exact time-to-failure for the unit is known (e.g. the unit failed at 100 hours of operation). With right censored data, the unit operated successfully for a known period of time and then continued to operate for an additional unknown period of time (e.g. the unit was still operating at 100 hours of operation). With interval and left censored data, the exact-time-to failure is unknown but it falls within a known time range. For example, the unit failed between 100 hours and 150 hours (interval censored) or between 0 hours 100 hours (left censored). Distributions which can be expressed as super positions of simpler component distributions are termed mixture distributions. For example, the failure distribution of a product might be expressed as

$$f(x;\theta) = p_1 f_1(x;\theta) + p_2 f_2(x;\theta) \quad (1.1)$$

Where $f(x;\theta)$ is the density function of failures of a product, $f_1(x;\theta)$ density function of failures due to first component, p_1 is the proportion of failure of first component and $f_2(x;\theta)$ is density function of failures due to second component, p_2 is the proportion of failure of second component .In a number of areas the densities of the form (1.1) are encountered and hence this received considerable attention. Here the main concentration will be on mixtures involving finite number of components. Mixtures of distributions are common in failure data where failures can occur for more than one reason and failure distribution for each reason considered as component in the mixture.

Truncation

Most of the life testing models are of skewed distributions having long tails and hence the classical estimation procedures may not be robust. To reduce the effect of long tails and to construct robust estimators, it is customary to truncate the tail(s) and sample from this truncated distribution.

Literature Review

Estimation procedures in exponential and mixture Wiebul were studied by Mendenhall and Harder (1958). Kao (1959) introduced two component mixture generalized gamma distribution to study the data from life testing experiments where there are two types of failures viz., catastrophic (sudden) failures and wear-out failures.Medagyessi (1961) analyzed absorption spectra in normal mixtures.Battacharya (1967) used normal components to study the length distribution of fish as a mixture model.Radhakrishna (1993) discussed M.L. Estimation of parameters in mixture double Weibul distribution and mixture generalized gamma distribution from complete and censored samples. Srinivasarao (1994) discussed M.L.Estimation of parameters in doubly truncated mixture double Weibul distribution.

Problem of Investigation

Generalized gamma model is one of the important life testing models used. This model includes both Weibul and gamma models as particular cases. Though its range is $(0, \infty)$, in any practical situations, the life of component in a system will always be a finite quantity and hence it is more reasonable to think of a truncated model with suitable truncation points for the study of inferential problems.

The present study considers preparing a right truncated mixture generalized Gamma distribution and estimation of parameters in the model.

Analysis

The density function of the generalized gamma distribution (GGD) is defined as

$$GGD(x; b,c,\theta) = \frac{1}{\gamma(\theta)} \; c\, b^{-c\theta} \; x^{c\theta-1} \; \exp[-(x/b)^c]$$

This model includes both Weibul and gamma distributions as special cases.

In this case $GGD(b,c,1) = W(b,c)$

$GGD(b,1,\theta) = G(b,\theta)$. Here, W and G denote respectively Weibul and gamma models.

Estimation of Parameters in Right Truncated Mixture Two Component Generalized Gamma Distribution From Complete Samples

We define density and distribution functions of two components right truncated GGD as follows:

$f_T = \frac{f(x)}{F(t)}$ $0 < x < t$ and t is the truncation point known/specified

$$F_T(x) = \frac{F(x)}{F(t)}$$

Where, $f(x) = p\ GGD(x;b_1,c_1,\theta_1) + (1-p)\ GGD(x;b_2,c_2,\theta_2)$

$0 \le p \le 1;\ b_1,c_1,\theta_1,\ b_2,c_2,\theta_2 > 0$

$F(x) = p\ DGGD(x;b_1,c_1,\theta_1) + (1-p)\ DGGD(x;b_2,c_2,\theta_2)$

$F(t) = p\ DGGD(t;b_1,c_1,\theta_1) + (1-p)\ DGGD(t;b_2,c_2,\theta_2)$

$GGD(x;b_j,c_j,\theta_j) = \frac{1}{\gamma(\theta_j)} \; c_j b_j\text{-}c_j\theta_j \; x c_j \theta^{j-1} \exp[-(x/b_j)c_j] \quad 0 < x < \infty$

$DFGGD(x; b_j, c_j,\theta_j) = I_{Zj(x)}(\theta_j)/\gamma(\theta_j)$

$Z_j(x) = (x / b_j)^{c_j}$

$I_{Zj(x)}(\theta_j) = \int_0^{Zj(x)} t^{(\theta j-1)} \exp(-t)\, dt$ is the complete gamma function

The likelihood function is given by

$L = \prod_{i=1}^{n} f_T(x_i;\theta)$ (1.2)

The log likelihood function is

$\text{Log } L = \sum_{i=1}^{n} \log f_T(x_i;\theta)$ (1.3)

The set of M.L.Equations to be solved is given by

$\frac{\partial \log L}{\partial\theta} = \sum_{i=1}^{n} \frac{1}{f}\left(\frac{\partial f}{\partial\theta}\right) = 0$ (1.4)

Where, $\theta = (p, b_1, b_2, c_1, c_2, \theta_1, \theta_2)^T$

The necessary derivatives for solving M.L. Equations are as follows

$$\frac{\partial f}{\partial p} = \text{GGD}(x; b_1, c_1, \theta_1) - \text{GGD}(x; b_2, c_2, \theta_2)$$

$$\frac{\partial F(*)}{\partial p} = \text{DFGGD}(*; b_1, c_1, \theta_1) - \text{DF GGD}(*; b_2, c_2, \theta_2)$$

$$\frac{\partial F_T(*)}{\partial p} = \frac{-1}{F^2(t)}\frac{\partial F(t)}{\partial p}F(*) + \frac{1}{F(t)}\frac{\partial F(*)}{\partial p}$$

For, j = 1,2

$$\frac{\partial f}{\partial b_j} = a\,(c_j/b_j)[\,(x/b_j)^{c_j} - \theta_j\,]\,\text{GGD}(x; b_j, c_j, \theta_j)$$

$$\frac{\partial f}{\partial c_j} = a\,[\,1/c_j - \log(x/b_j)\,(x/b_j)^{c_j} - \theta_j\,]\,\text{GGD}(x; b_j, c_j, \theta_j)$$

$$\frac{\partial f}{\partial \theta_j} = a\,[\,1/c_j - \log(x/b_j) - \gamma'(\theta_j)/\gamma(\theta_j)]\,\text{GGD}(x; b_j, c_j, \theta_j)$$

$$\frac{\partial F(*)}{\partial b_j} = a\,(*/b_j)\,\text{GGD}(x; b_j, c_j, \theta_j)$$

$$\frac{\partial F(*)}{\partial c_j} = a\,[c_j/b_j(*/b_j)]^{-1}\log(*/b_j)]\,\text{GGD}(x; b_j, c_j, \theta_j)$$

$$\frac{\partial F(*)}{\partial \theta_j} = a\,(c_j/b_j)^{-1}\,\text{GGD}(x; b_j, c_j, \theta_j)$$

$$\frac{\partial F_T(*)}{\partial c_j} = \frac{-1}{F^2(t)}\frac{\partial F(t)}{\partial c_j}F(*) + \frac{1}{F(t)}\frac{\partial F(*)}{\partial c_j}$$

$$\frac{\partial F_T(*)}{\partial \theta_j} = \frac{-1}{F^2(t)}\frac{\partial F(t)}{\partial \theta_j}F(*) + \frac{1}{F(t)}\frac{\partial F(*)}{\partial \theta_j}$$

Where θ can be one of $p, b_1, b_2, c_1, c_2, \theta_1, \theta_2$

and $a = \begin{cases} p & if\ j = 1 \\ 1 - p & if\ j = 2 \end{cases}$

To obtain M.L.estimates, the system of equations to be solved simultaneously for p, b_1, b_2, c_1, c_2, using one of the numerical techniques. The distinct elements of necessary Jacobian matrix 'W' are

$$\frac{\partial^2 \log L}{\partial \theta_j\, \partial \theta_k} = \begin{cases} \frac{n}{F^2}\frac{\partial F(t)}{\partial \theta_j}\frac{\partial F(t)}{\partial \theta_k} - \frac{n}{F(t)}\frac{\partial^2 F(t)}{\partial \theta_j\, \partial \theta_k} + \sum_{i=1}^{n}\frac{1}{f}\left[\frac{\partial^2 f}{\partial \theta_j\, \partial \theta_k} - \frac{1}{f}\frac{\partial f}{\partial \theta_j}\frac{\partial f}{\partial \theta_k}\right] if j \neq k = 1,2 \\ \frac{n}{F^2\ (t)}\left(\frac{\partial F(t)}{\partial \theta_k}\right)^2 - \frac{n}{F(t)}\frac{\partial^2 F(t)}{\partial \theta^2} + \sum_{i=1}^{n}\frac{1}{f}\left[\frac{\partial^2 f}{\partial \theta^2} - \frac{1}{f}\left(\frac{\partial f}{\partial \theta_k}\right)^2\right] if j = k = 1,2 \end{cases} \quad (1.5)$$

Where = $\theta = (p, b_1, b_2, c_1, c_2, \theta_1, \theta_2)^T$

The necessary second order derivatives to complete these elements are given in the Appendix.

N- Component Mixture Distribution

The density and distribution functions of 'N' component right truncated mixture generalized gamma distribution are,

$$f_T(x) = \frac{1}{F(t)} \sum_{j=1}^{N} p_j f_j(x), \quad 0 \leq x \leq t, \ 0 \leq p_j \leq 1, \sum_{j=1}^{N} p_j = 1, b_j, c_j, \theta_j > 0$$

't' is the truncation point known/specified.

$$F_T(x) = \frac{1}{F(t)} \left[\sum_{j=1}^{N} p_j F_j(x)\right] \quad \text{for } j = 1 \text{ to } N$$

Where $f_j(x) = GGD\ (x; b_j, c_j, \theta_j)$ and

$$F_j(x) = DFGGD\ (x; b_j, c_j, \theta_j)$$

The number of independent parameters to be estimated is (4N-1) viz., ($p_1, p_2, \ldots, p_{N-1}$; $b_1, b_2, \ldots b_N$; $c_1, c_2, \ldots c_N$; $\theta_1, \theta_2, \ldots \theta_N$)

The likelihood function is as shown in (1.2).

The M.L.Equations to be solved can be obtained from (1.4) and $\theta = (p_1, p_2, \ldots, p_{N-1} ; b_1, b_2, \ldots b_N; c_1, c_2, \ldots c_N ; \theta_1, \theta_2, \ldots \theta_N)^T$.

To obtain M.L.Estimates the system of equations to be solved simultaneously for

$p_1, p_2, \ldots, p_{N-1}$; $b_1, b_2, \ldots b_N$; $c_1, c_2, \ldots c_N$; using iterative techniques and the elements of Jacobian matrix **'W'** can be obtained by making necessary changes in the expressions given in (1.5).

Asymptotic Variance and Covariances :

Let $\mathbf{I} = [-W_{ij}]$ be the information matrix and it can be obtained by evaluating the Jacobian matrix **W** and changing the sign of all the elements. By inverting **I**, we get the approximate asymptotic variance and covariance matrix of the estimates.

Conclusion

The management of quality-related activities include provision for measurement. For measurement, we obtain input from customers to learn how they evaluate the quality of the output provided to them. In life data analysis of a product, to fit a statistical model to a life data set, the analyst estimates the parameters of the life distribution that will make the function most closely fit the data. Once the parameters of a life distribution to a particular data set have been calculated, one can obtain a variety of plots and calculated results including Reliability Given Time: The probability that a product will operate successfully at a particular point in time. Probability of Failure Given Time (Unreliability): The Probability that a product will be failed at a particular point of time. Mean Life: The average time that the products in the population are expected to operate before failure. This metric is often referred to as mean time to failure or mean time before failure. Failure Rate: The number of failures per unit time that can be expected to occur for the product. The model developed widens the decision models with respect to reliability, Mean life, warranty and after sales service.

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Appendix I

$$\frac{\partial^2 F(*)}{\partial b_j^2} = \frac{a}{\gamma(\theta_j)} \left(\frac{*}{b_j}\right)^{c_j\theta_j} \left(\frac{c_j}{b_j}\right) \left(\frac{1}{b_j}\right) \left[c_j\left\{\left(\frac{*}{b_j}\right)^{c_j} - \theta_j\right\} - 1\right] \exp\left[-\left(\frac{*}{b_j}\right)^{c_j}\right]$$

$$\frac{\partial^2 F(*)}{\partial c_j^2} = \frac{-a}{\gamma(\theta_j)} \left(\frac{*}{b_j}\right)^{c_j\theta_j} \left[\left(\frac{*}{b_j}\right)^{c_j} - \theta_j\right] log^2\left(\frac{*}{b_j}\right) \exp\left[-\left(\frac{*}{b_j}\right)^{c_j}\right]$$

$$\frac{\partial^2 F(*)}{\partial \theta_j^2} = \frac{-a}{\gamma(\theta_j)} \left(\frac{*}{b_j}\right)^{c_j\theta_j - 1} \left[c_j log\left(\frac{*}{b_j}\right) - \frac{\gamma'(\theta_j)}{\gamma(\theta_j)}\right] \exp\left[-\left(\frac{*}{b_j}\right)^{c_j}\right]$$

$$\frac{\partial^2 F(*)}{\partial b_j \partial c_k} = \frac{-a}{\gamma(\theta_j)} \left(\frac{*}{b_j}\right)^{c_j\theta_j - 1} \left(\frac{1}{b_j}\right) \left(\frac{1}{b_j}\right) \left[1 - c_j\, log\left(\frac{*}{b_j}\right) \left\{\left(\frac{*}{b_j}\right)^{c_j} - \theta_j\right\}\right] \exp\left[-\left(\frac{*}{b_j}\right)^{c_j}\right]$$

$$\frac{\partial^2 F(*)}{\partial b_j \partial \theta_k} = \frac{a}{\gamma(\theta_j)} \left(\frac{*}{b_j}\right)^{c_j\theta_j} \left(\frac{c_j}{b_j}\right) \left[c_j log\left(\frac{*}{b_j}\right) - \frac{\gamma'(\theta_j)}{\gamma(\theta_j)}\right] \exp\left[-\left(\frac{*}{b_j}\right)^{c_j}\right]$$

$$\frac{\partial^2 F(*)}{\partial c_j \partial \theta_k} = \frac{a}{\gamma(\theta_j)} \left(\frac{*}{b_j}\right)^{c_j\theta_j} log\left(\frac{*}{b_j}\right) \left[c_j log\left(\frac{*}{b_j}\right) - \frac{\gamma'(\theta_j)}{\gamma(\theta_j)}\right] \exp\left[-\left(\frac{*}{b_j}\right)^{c_j}\right]$$

$$\frac{\partial^2 f}{\partial b_j^2} = \frac{a}{\gamma(\theta_j)} \left(\frac{x}{b_j}\right)^{c_j\theta_j - 1} \left(\frac{c_j}{b_j}\right)^2 \left(\frac{1}{b_j}\right) \left[c_j\left\{\left(\frac{x}{b_j}\right)^{c_j+2} - \theta_j\right\} - 1\right] \exp\left[-\left(\frac{*}{b_j}\right)^{c_j}\right]$$

$$\frac{\partial^2 f}{\partial c_j^2} = \frac{a}{\gamma(\theta_j)}$$

$$\left(\frac{x}{b_j}\right)^{c_j\theta_j-1}\left[\frac{1}{b_j}\left\{1+c_j\theta_j log\left(\frac{x}{b_j}\right)\right\}\left\{\frac{1}{c_j}-\left(\left(\frac{x}{b_j}\right)^{c_j}-\theta_j\right)log\left(\frac{x}{b_j}\right)\right\}-\right.$$
$$\left.\left(\frac{c_j}{b_j}\right)\left(\frac{x}{b_j}\right)^{c_j} log\left(\frac{x}{b_j}\right)\left\{\frac{1}{c_j}-\left(\left(\frac{x}{b_j}\right)^{c_j}-\theta_j\right)log\left(\frac{x}{b_j}\right)\right\}\left\{log\left(\frac{x}{b_j}\right)-\frac{1}{c_j^2}\right\}\right]$$

$$\frac{\partial^2 f}{\partial \theta_j^2} = \frac{a}{\gamma(\theta_j)}\left(\frac{*}{b_j}\right)^{c_j\theta_j-1}\left(\frac{c_j}{b_j}\right)\left[\left\{c_j log\left(\frac{x}{b_j}\right)-\frac{\gamma'(\theta_j)}{\gamma(\theta_j)}\right\}-\{\gamma''(\theta_j)-\frac{\gamma'(\theta_j)}{\gamma(\theta_j)}\right]\exp[-\left(\frac{x}{b_j}\right)^{c_j}]$$

$$\frac{\partial^2 f}{\partial b_j \partial c_k} = \frac{a}{\gamma(\theta_j)}\left(\frac{1}{b_j}\right)\left(\frac{x}{b_j}\right)^{c_j\theta_j-1}$$

$$\left[c_j\left(\frac{x}{b_j}\right)^{c_j} log\left(\frac{x}{b_j}\right)\{1+\theta_j-\left(\frac{x}{b_j}\right)^{c_j}\}+\{\left(\frac{x}{b_j}\right)^{c_j}-\theta_j\}\{c_j\theta_j log\left(\frac{x}{b_j}\right)+1\}\right]\exp[-\left(\frac{x}{b_j}\right)^{c_j}]$$

$$\frac{\partial^2 f}{\partial b_j \partial \theta_k} = \frac{a}{\gamma(\theta_j)}\left(\frac{x}{b_j}\right)^{c_j\theta_j}\left(\frac{c_j}{b_j}\right)\left[\{c_j log\left(\frac{x}{b_j}\right)-\frac{\gamma'(\theta_j)}{\gamma(\theta_j)}\}\left\{\left(\frac{x}{b_j}\right)^{c_j}-0_j\right\}-1\right]\exp[-\left(\frac{*}{b_j}\right)^{c_j}]$$

$$\frac{\partial^2 f}{\partial c_j \partial \theta_k} = \frac{a}{\gamma(\theta_j)}\left(\frac{c_j}{b_j}\right)\left(\frac{x}{b_j}\right)^{c_j\theta_j-1}\left[\{c_j log\left(\frac{x}{b_j}\right)-\frac{\gamma'(\theta_j)}{\gamma(\theta_j)}\}\{\frac{1}{c_j}-\left(\left(\frac{x}{b_j}\right)^{c_j}-\theta_j\right)log\left(\frac{x}{b_j}\right)\}\right]$$
$$\exp[-\left(\frac{*}{b_j}\right)^{c_j}$$

$$\frac{\partial^2 F(*)}{\partial p \partial b_j} = (-1)^{j+1}\frac{\partial F(*)}{\partial b_j}$$

$$\frac{\partial^2 f}{\partial p \partial b_j} = \xi \frac{\partial f}{\partial b_j},$$

Where, $\xi = \begin{cases} \frac{1}{p} & if\ j=1 \\ \frac{-1}{1-p} & if\ j=2 \end{cases}$

CASE STUDY

Mentoring for Entrepreneurial and Leadership Development

M.S.Rao*

(This case provides basic inputs about the concept of mentoring to the readers. It touches on the role of mentoring in leadership. There are two cases related to student and peer mentoring based on practical experience. It helps to look at the role of leaders in leadership mentoring. It helps both faculty and students to be benefited out of mentoring.)

Background

Mentoring is a powerful empowerment tool where both mentor and mentee grow personally and professionally. It is the process where the mentee's investments are direct and mentor's investments are indirect. Mentoring takes place in informal environment. It helps in transferring knowledge, skills, abilities and competencies from mentor to mentee. It requires good understanding and synergy between the both. It involves more of learning than teaching. There are various types of mentoring, like informal or natural mentoring, developmental mentoring, peer mentoring, student mentoring, youth mentoring, team mentoring, business mentoring, political mentoring, lateral mentoring, soft (skills) mentoring, facilitated mentoring, reverse mentoring, entrepreneurial mentoring etc., In this case study on mentoring, two cases are discussed – student mentoring and peer mentoring:

Student Mentoring - T.V.N.Lakshmi Manasa:

Rao worked in an engineering college as a faculty member for some period. He taught management subjects for engineering students. Management subjects are added to engineering curriculum as the engineers need to know about basic jargon about management so that they get along well with management jargon at the corporate world.

He had passion for teaching and spent most of the time with students even outside the class and even after the college working hours. He counseled and guided several students on campus placements. He also mentored many students. One day, a student by name, T.V.N.Lakshmi Manasa came to faculty room where Rao used to sit along with other colleagues. She expressed her willingness to become a successful soft skills trainer. Manasa wanted Rao to mentor as latter used to conduct freelance training related to campus recruitment for students and other training programs to corporate.

Rao was very happy to hear Manasa's urge to become a trainer. Rao enquired whether she was bold in facing the people public. And also posed series of questions related to her communication capabilities, confidence, courage to face huge audience and her other academic activities. After getting positive responses from her, he began the mentoring process. Rao recognized that Manasa had the gift of the gab. She had mesmerizing voice but had problems with grammar. Rao felt that she looked for career support. Rao advised Manasa to read books related to various types of training methodologies and also to observe various video cassettes of global speakers and trainers. Rao told to observe keenly the body language of the speakers as well as the verbal language and voice modulation whenever she talked with others.

Manasa began observing all people from communication perspective such as style, accent, and phonetics. She practiced regularly at home along with family members and friends. Gradually she started hitting the podium at the college by taking active part into conferences, seminars and debates. All these things have brought out

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abundant improvement. And finally, she evolved as a soft skills trainer. Regularly Rao provided her feedback by observing her speaking style, accent, body language. He provided her confidence and encouragement to grow as a trainer. During the period he constantly motivated her to build confidence to face the audience. He advised her about the areas to be improved. It took around six months to improve herself and evolve as a soft skills trainer. Here, it is a case of student mentoring where a student's ambition of becoming a soft skills trainer has been handled carefully. For Rao, it was a great satisfaction to mentor an ambitious student. He also learnt many things from Manasa such as the latest developments that were taking place in training and development.

Peer Mentoring – Robert

Every individual looks for help and guidance when s/he joins any organization. She/He looks for an experienced, trustworthy and reliable person for guidance. Mentoring is the mantra in such a situation. It helps to break the initial hiccups and psychological barriers thereby getting the individuals grooved with in the organization smoothly. Robert joined in a research centre as a researcher where he had to author books. He had passion for teaching and training. He worked as a faculty member in an engineering college taking classes in management subjects. He also had flair for writing and had several articles published in various magazines, journals and websites. The research centre offered him employment based on his inclination and interest towards writing although he did not have any research experience.

Robert also liked to join as he had an ambition to author books but it was not accomplished. Seeing this as an opportunity he joined in the research center. After joining the research center, he began liking the corporate culture and academic environment. But he missed interaction with students. He basically loved teaching and interacting with students. In research center, there was no interaction as everyone sat in front of the computer system and concentrated on the research activities. He thought of resigning. And, he consulted other colleagues and told his passion towards teaching and training but they were not supportive the way he expected except one person by name, Susan. Susan was a legendary editor with several books to her credit. Besides she was the senior most in the research centre. Right from the beginning Robert began liking and admiring her. He was confident that she would understand his problem. When Robert conveyed his displeasure and dissatisfaction with the research work, she counseled him not to think in that way. On the other hand, she advised Robert to stick on to research activities for some time as it was the right place to acquire abundant knowledge in his chosen domains of soft skills and leadership development. She also added that a person with research background can become a better teacher. Robert was convinced to some extent and got motivated to continue for some time to fulfill his ambition of authoring books as well as acquiring command on his passionate domains.

Robert began concentrating with an eye to go back to teaching. He realized that the research center would serve as a platform to become a successful and full fledged faculty member. After few days, he realized that the research centre set up targets of completing one book a month of his choice. Robert tried hard to work for books related to soft skills and leadership development. Unfortunately many books were generated by senior colleagues in those domains and there was overlap of books. Again it became a terrific trouble for Robert as he did not want to go outside his passionate domains. But he had to deliver a book for a month as it was an organizational requirement. Robert again told his problem to Susan who advised him to diversify into other domains where there was no overlap. Robert did not like to go outside his domain. She advised him to be practical as the system believed in numbers and failure to deliver a book might cost his job as well as losing respect. Again Robert thought of leaving the research center as his heart beat for teaching and training. Susan was wonderful woman with clear heart and with positive mindset. She was an intelligent woman who understood the predicament of Robert and enquired further to find out the areas of interest latter loved. After prolonged discussions, Susan discovered that Robert could do well in Self-improvement books. Therefore, she directed Robert to look in that domain. She also gave valuable tools and techniques related to researching. Robert got temporary relief as he got sufficient triggers to generate books. Robert began admiring and respecting Susan gradually as he found similar areas of interest.

Whenever Robert faced challenges in the research center he openly discussed with Susan who with lot of patience mentored him without expecting any returns. Although there was lot of competition among the peers Susan never looked Robert from competitive perspective. She stood by Robert several times and provided lot of emotional support and confidence. She maintained confidentiality about the mentoring relation by winning and trust and confidence. Susan grooved Robert into the organization and groomed him becoming a successful researcher through peer mentoring. Susan demonstrated all ingredients that were necessary to become a peer mentor.

This is the case of peer mentoring where mentoring takes place between the senior and junior employees. Here the senior employee actively involves in helping the new employee to get grooved into the system smoothly with domain and organizational inputs. It requires lot of patience and perseverance since peers are involved. The mentors should not have false ego or jealousy. They should not play office politics. On the contrary, they must help their colleagues in a wholehearted manner. It is a way of sharing the knowledge among the colleagues without expecting any returns.

Conclusion

Mentoring is not new. It has been existing since time immemorial. Right from Stone Age to space age and from Industrial age to Information age mentoring has been existing. It will exist as long as the human civilization exists. Having mentor is essential. You lose nothing but gain a lot. It is cost-effective and in few cases no money is involved. Mentoring offers risk free returns. Every individual owes something towards society. Keeping knowledge within themselves does not bring any results to the mankind. All individuals must learn to give their best for the benefit of mankind. Let us leave the world better than what we found.

BOOK REVIEW

Termites in the Trading System- How Preferential Agreements Undermine Free Trade

By Jagdish Bhagwati, Oxford University Press 2009, pp xi-139, Rs, 295

Rajesh. G*

The proliferation of preferential agreements has generated heated polemics between the supporters and the opponents. The former leave no stone unturned in eulogising the benefits of preferential agreements and the latter are the inveterate critics who vehemently criticise the preferential agreements on the ground that, they severely undermine the multilateral trade system. Jagdish Bhagwati, a prolific writer, also the author of the book 'In defense of Globalization'dwells at length on this topic. His antipathy for preferential trade agreements(PTAs) gets manifested in the title itself in which he calls them as 'Termites'. In the book, 'In Defense of Globalisation', he forcefully argues in favour of globalization, by exposing the shallow claims of anti globalists. In this book too he minces no words when he argues that the PTAs are anathema to multilateral non discriminatory trade. The book consists of four chapters. In the first chapter, titled, 'Proliferating Preferential Trade Agreements' the author explains how during 1930s the principle of multilateral trade started gaining ground. He mentions the fact that, the then economists such as the famous twentieth century economist John Maynard Keynes, Joan Robinson, Heinz Ardnt, bemoaned the policy of 'Protectionism' which was conspicuous in the preferential trade. Jagdish Bhagwati further mentions that Cordell Hull, the then US secretary of State during the Presidentship of Roosevelt worked to free trade from the ravages of protectionism wreaked by the Smoot-Hawley Tariff of 1930s. By mentioning this, Jagdish Bhagwati probably wants to impress upon the readers that the opposition for preferential trade agreements is not just of recent origin. The formation of General Agreement on Tariffs and Trade (GATT) with its principle of Most Favoured Nation (MFN), seems to be a step ahead towards non discriminatory trade. The author says that the primacy of MFN meant that any exceptions to MFN were explicitly provided for but unfortunately such an exception was provided via article 24 of GATT's rule. It is this exception which gave rise to a number of PTAs. The author mentions that there is a cumulative total of 350 PTAs (pp 11). The author is very elated to mention that although including him the opponents of PTAs in the early 1990s were in minority, now it is no longer so. He strongly feels that nearly all economists are opposed to that. Why has the pandemic of PTAs broken out? Why are they a pox on the trading system? What then is the way out? Bhagwati vividly explains in the subsequent chapters. It would not be an exaggeration to say that his authoritative arguments against the proliferation of PTAs is yet another outstanding contribution to the literature of international trade.

In the second chapter titled, 'Why has the pandemic broken out'? the author at the outset cites the dilution of article 24 which provided for exceptions to MFN, as one of the reasons for proliferation of PTAs. It is apt to quote the author here.

It was not just the widespread intellectual failure to understand the critical distinction between freeing trade in discriminatory and non-discriminatory ways that facilitated the spread of PTAs over time. The rot also set in because the relatively stringent requirements, originally built into article 24 as preconditions that had to be satisfied before this exception to MFN could be utilized, were progressively reduced to near irrelevance. What was considered a relatively difficult exception to invoke before a PTA could be formed became an exception that became progressively easier to invoke, helping to turn a rivulet into a torrent. (pp 19)

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The other reasons that he cites for the growth of PTAs betrays the dexterity with which he has handled the subject. He is certainly right when he says that since the early 1990s, the rise of PTAs, which he calls it as ‘Second Regionalism’ was another reason for the rise of PTAs. He further adds that the change of mind by the USA, which until then was supporting multilateralism, was the principle cause for the second regionalism. The EU hub seeking spokes, the US offering trade to South America instead of aid, the US seeking to countervail domestic protectionism, bureaucratic and ethnic pressures in US, were other contributory factors for the rise of PTAs. One must agree with the author regarding the positive correlation between America’s express and implied approval of PTAs. If as a superpower America would not have acquiesced in ever increasing PTAs, certainly the growth of PTAs would not have been so humongous. Even in the WTO meetings one can see that America and the EU never sacrifice their myopic interests to accommodate the interests of the developing economies. This book further underscores the selfish interests of the developed world in pursuing the agenda of PTAs. In this chapter Bhagwati further gives the reasons for rise of PTAs among the developing countries and also the PTAs among the developed and developing economies which is called as hegemon centred PTAs. In case of former the author says that the developing countries, view that their bargaining position would be improved in international negotiations, if they bound together in PTAs was one reason among so many others. In case of latter, the author says that one of the reasons for these kind of PTAs is security. For example, Singapore’s FTA with the US is dictated largely by a desire to keep the US involved in the region. For both the kinds of PTAs he gives about 11 reasons, which shows the author’s deep understanding of the intricacies of the subject.

In the third chapter titled, ‘Why PTAs are pox on the world trading system’ Bhagwati familiarizes the reader with the pitfalls of having more and more PTAs. Bhagwati opines that PTAs divert trade from the cost efficient non-member countries to the relatively inefficient member countries. This is because the non-members continue to pay the pre-PTA tariffs, whereas the higher cost member countries no longer have to. This he calls as trade diversion. The author further stresses on the fact that economists could no longer pretend that it did not matter how one liberalized trade, that preferential trade liberalization was possibly a double edged sword. One has to read his counter arguments against those who are proponents of PTAs, who are complacent about the phenomenon of trade diversion to know how right he is in saying that PTAs are pox on the trading system. For instance, he says that, although the proponents say that the external tariffs are not be raised when the PTA is formed so as not to harm non-members, the fact is that they can be raised when the external (MFN) tariffs are bound at higher levels than the actual tariffs. He supports his argument by giving the example of what happened during the Mexican peso crisis of 1994, when external tariffs were raised on 52 items from 20 percent to as much as 35 percent, while the North American Free Trade Agreement (NAFTA) preferential tariffs on the US and Canadian goods continued. So the prospect of trade diversion actually increased, despite the intent of those who drafted article 24. The noteworthy part of this chapter is the diagrammatic representation given by the author showing the crisscross relationship among the countries who are the members of many PTAs. He calls this as “Spaghetti Bowl”. There cannot be two opinions about the fact that with the proliferation of PTAs the trading system can then become chaotic. To further support his contention against the rise of PTAs the author says that trade unrelated issues also enter into the PTAs between the poor countries and hegemonic powers because of the powerful lobbies in the developed countries that wish to pursue their trade related agendas by incorporating them into trade treaties. For example, he says that AFL-CIO, which is a voluntary federation of America’s unions, has insisted on inclusion of labour standards in trade treaties, given its huge concern that competition from the poor countries is hurting the US workers’ wages and threatens their hard won standards and bringing foreign countries’ labour standards to the level of those in the US which has often been their desire. Finally the author adds that the PTAs are indeed stumbling blocks and not building blocks to multilateral free trade.

In the concluding chapter titled, ’What do we do now?’ the author suggests three options. Halting the formation of new PTAs and eliminating the preferences in existing PTAs through built in reductions of the differentials between MFN tariff on non-members and the preferential tariff on members, reducing the chaos of the spaghetti bowl, using multilateral trade negotiations such as Doha Round to reduce the MFN tariffs to negligible levels.

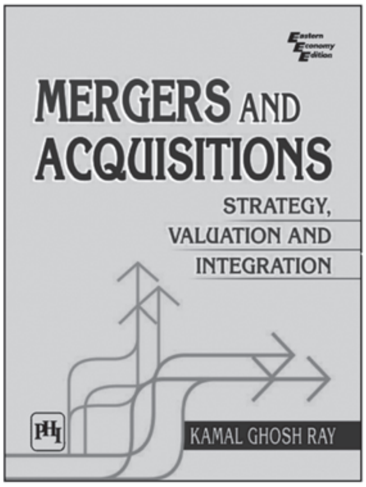
There is no denying the fact that Jagdish Bhagwati possesses surfeit of knowledge on various facets of international trade. This book is yet another testimony to that. Policy makers who are concerned with framing of international trade rules must read this book to understand how PTAs would sound the death knell for multilateral trade which is sine qua non for the success of globalization. Every chapter of the book is a value addition for the reader. The opinions of various economists, the former director generals of WTO and other experts, diagrammatic representations, the author's own arguments speak volumes regarding the inherently discriminatory preferential trade agreements. However it is also necessary to ponder over the fact whether, non-discriminatory trade is possible through multilateral trade. The WTO since its formation is mired in controversies. The discriminatory agreements such as agreement on agriculture are indeed the stumbling blocks to the non discriminatory multilateral trade. If discrimination within the WTO agreements is not removed and the grievances of developing economies are not solved, then the developing economies are likely to resort to more and more PTAs. The author remains silent about this. Apart from this, the book does not draw any flak. In a nutshell, this book gives valuable insights into one of the pertinent issues in the domain of international trade.

MERGERS AND ACQUISITIONS

STRATEGY, VALUATION AND INTEGRATION

KAMAL GHOSH RAY

Pages :888,
ISBN :978-81-203-3975-0, Price: Rs.475



During the last couple of decades or so, mergers and acquisitions (M & As) have assumed great importance. Giant corporations and big multinational enterprises (MNEs) are constantly on the lookout for acquiring big or small companies to increase their wealth and become even bigger global giants. It is in this context that a comprehensive book on M & As such as the one authored by Professor Kamal Ghosh Ray becomes so significant.

This well-balanced and well-researched text is a harmonious blend of theoretical concepts and practical aspects on mergers and acquisitions. The book begins with an analysis of the causes of and strategic approaches to M & As. Then it goes on to give a detailed discussion on the valuation aspects—valuing the enterprise, business, brands, goodwill, HR and customer relationships, valuing synergy, valuing private sector companies and family business besides dealing with business valuation standards in USA and India. Finally, the book concludes with a comprehensive coverage of accounting for the legal aspects of and integration in mergers and acquisitions. The text is profusely illustrated with examples, tables and case studies.

Intended as a text for PG students of management, this book would also be of immense value to students of chartered accountancy, cost accountancy and company secretaryship. In addition, it would appeal to a broad spectrum of professionals ranging from strategic planners, CFOs, CEOs, COOs, financial analysts, bankers, venture capitalists, to portfolio managers and entrepreneurs. Finally, the book would be treasured by anyone who is interested in Mergers and Acquisitions—an increasingly topical subject.

What the Reviewer Says

"Undoubtedly, this book on Mergers and Acquisitions by Dr. Kamal Ghosh Ray is of immense value to all the academicians and students of Business Schools and is of practical import to all the promoters and CFOs of the corporate world who are interested or involved in mergers and acquisitions."

K.Harishchandra Prasad
President, The Federation of Andhra Pradesh Chambers and Commerce and Industries, Hyderabad

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