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GJEIS

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EIS no doubt should live up to these demands with the help of GJEIS which exclusively focused in this direction. It's with significant enjoyment that we welcome GJIES fraternity and indeed the Information system community, to this fifth volume of the GJEIS with its new portal www.gjeis.org in a new avatar in association with **KARAM Society and Informatics (India) Limited.** The purpose of this Journal is to build a deep-seated framework of discovering and analyzing an Information system through workflow-based organizational business operations. GJEIS Invites Empirical Articles, Theme Based Articles, View Point, Case studies, Biographical Sketch of a Luminary in an area of IT, as well as new arrival "**Great Enterprise Contribution to Society in Information System Perspectives**" on the focused theme through its online Open Source software.

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Global Journal of Enterprise Information System

Does Motivational Strategies and Issues Differ Across Generations: An Analytical Study

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Abstract

Although most organizations today are giving importance and lot of consideration to encouraging and appreciating workforce diversity in their culture, however for them definition of workforce diversity is limited to just gender and ethnicity. One of the most demoralizing diversity challenges—generational diversity—often goes disregarded and unaddressed. Motivation has long been referred as the most important component for job satisfaction, productivity and performance, and therefore enjoys a long history of academic attention and research theories. It is also proved that motivated employees performs 25% extra than the employees who are not satisfied. At present, workforce representing four generations viz. Traditionalist, Baby Boomers, Generation X and Generation Y are working side by side in the organizations. In this study, a modest attempt was made to check whether significant differences exist among faculty members working in Universities/Colleges in Delhi and NCR region towards factors influencing motivation using a sample size of 690 faculty members. The null hypothesis was rejected proving that differences exist among generations on what motivates them. The study calls the attention of HR Managers to this fact and suggests them to revise their motivational strategies keeping in mind the changing needs and expectation of diverse workforce.

1. Introduction

Although most organizations decant resources and instance into accomplishing and encouraging diversity, many limit their definition of diversity to gender and ethnicity. One of the most demoralizing diversity challenges—generational diversity—often goes disregarded and unaddressed. How to motivate the employees is considered to be one of the challenging problems facing human resource managers of all the organizations today (Wiley, 1997), because motivated employees contributes towards organizational success (Robbins, 2003). Recently conducted studies have proved that highly skilled employees who are motivated at their job performs 25% extra than the one who are not satisfied. (Cialdini, Petrova, & Goldstein, 2004). Motivation has long been referred as the most important component for job satisfaction, productivity and performance, and therefore enjoys a long history of academic attention and research theories (Bandura, 1986; Hackman & Oldham, 1982; Herzberg, Mausner, & Snyderman, 1959; Locke & Latham, 1990; McClelland, 1961; Mashlow, 1943; Vroom, 1964). A good number of researches have been done on identifying what motivates people at work (Latham & Pinder, 2005); however applying the findings of the research into practice is a challenging task in a diverse, multi-generational workforce. Generation Y employees (born after 1980) have started to enter the workforce from the year 2000 in increasing numbers and this resulted into a workforce which comprises four generations– a kind of workforce diversity which is very difficult to manage for the most of the organizations (Eisner, 2005; O'Bannon, 2001). The four generations include Traditionalists (born before 1946), Baby Boomers (born 1946–1964), Generation X (born before 1980) and Generation Y (born after 1980). All these generations are entering the workplace with their own expectations of needs, values and leadership which are based on their early social and economic experiences that are unique to the times of each individual generation (Eisner, 2005; Howe & Strauss, 1991; Wolburg & Pokrywczynski, 2001; Zemke, Raines, & Filipczak, 1999).

Examples of these different generation-shaping events include the Great Depression and World War II for Traditionalists; the Vietnam War and Civil Rights Movement for Baby Boomers; Watergate and high divorce rates for Generation X; and the

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Columbine High School shootings and 9/11 terrorist attacks for Generation Y (Eisner, 2005; Howe & Strauss, 1991; Zemke, Raines, & Flipczak, 1999).

Apart from difficulties brought in by generational diversity, organizations and their Human Resource Departments are also faced with the challenge of managing large inflow of new Generation Y workers and the even larger outflow of the Baby Boom generation as it moves into its retirement years. This has resulted in forcing employers and researchers to searching for ways to overcome the effects of expected mass outflow of Baby Boomers and Traditionalist employees from the workforce (Toossi, 2005). This mass outflow is going to reflect a significant shift in the generational diversity as the new generation starts entering and replacing baby boomer generation at the workplace (Eisner, 2005; O'Bannon, 2001), as well as deficit in the labour supply in some originations as the overall growth rate of labour has slowed down (Cappelli, 2005; Dohm, 2000; Toossi, 2007). The entry of one generation (Generation Y) and exit of other generation (baby boomers) are pressurizing companies to find out effective ways to (1) Retain and utilize the experience and knowledge of baby boomers who have attained retirement age, (2) effectively mobilizing the talent and skills of Generation X and (3) develop and harness the new, and inexperienced talent represented by the Generation Y employees.

A shift has been taking place in almost all teaching institutions as well. Baby boomer faculty members (born between 1945 till 1965) are approaching their retirement shortly and their fellow members from Generation X (born from 1965 till 1980) are entering their mid career stage. The next generation in the teaching profession is Millennial or Y Generation (born between 1981 till 2000). Just like Baby Boomer and Generation X have shaped their career growth chart and their policies, the younger generation's expectations for their life and work will impact the ways in which Gen Y teachers enter and remain in the profession. This study aims to help state, district, and most important university leaders to better understand the generation differences available so that they can better manage and support all teachers for the improvement of teaching and learning, for current and future generations of students.

There are major differences in what motivates different generations because of their different characteristics and nature. It is very important to deeply analyze these motivational issues as this will help the HR managers to formulate the strategies accordingly in successfully motivating different generations for the well being of the company health and productivity.

In this backdrop it is very important to investigate and compare work motivators across generations. In this study a modest attempt is made to check whether significant differences are there across generations regarding motivational factors. To achieve the objectives of the study the paper is divided into following sections, section 1 i.e. the present section gives the importance of generational differences, different workforce available in the workforce and need to investigate as to how these generations differ on account of motivational factors. Insights from these factors will help the managers in policy formulations. Section 2 gives extensive review of present literature across globe. Section 3 gives data and methodological issues. Section 4 gives details of interpretations of results. Section 5 gives summary and conclusions. References form the part of last section.

2. Review of Literature

This section gives extensive review of literature of studies done in India and abroad.Motivation has always enjoyed the interest of researchers resulting into numbers of theories on this concept (Bandura, 1986; Hackman & Oldham, 1982; Herzberg, Mausner, & Srydeman, 1959; Locke & Latham, 1990; Mashlow, 1943; McClelland, 1961; Vroom, 1964). Satisfied and motivated employees are always important for the success of any organization as they contribute their 100% to the organization. It is also observed that employees who are satisfied outperform those who are not satisfied by 25%. (Cialdini, Petrova, & Goldstein, 2004). With the advent of motivational theories viz. Maslow's Need Hierarchy theory, Mc Gregor's Factor theory, Vroom's Expectancy Theory, Equity Theory and research work conducted in this area, success has been achieved by the researchers to motivate their employees. Since the mid-1970s, great progress has been made in the ability to foresee and recognize motivation in the organizations. (Latham & Pinder, 2005). However, many of the researchers are of the opinion that lot of work is still to be done.

According to (Michell, 1982), "Motivation can be defined as "those psychological processes that cause the arousal, direction, and persistence of voluntary actions that are goal directed" (p. 81). Motivation is a result of processes internal or external to the individual that arouse enthusiasm and persistence to pursue a certain course of action. In other words, it is complex of forces starting and keeping a person at work in an org. Thus motivation is something that moves the person into action, and continue him in the course of action already initiated (Robbins, 2003; Rudolph & Kleiner, 1989).

The basic objectives of motivational theories are to identify different facts which create enthusiasm and zeal in employees towards work and finally result in achieving goals of the organisation (Michell, 1982). Under motivation, values can be classified into three categories: (a) intrinsic or self actualization values, (b) extrinsic or security or material values and (c) social or relational

values (Mashlow, 1943; McClelland, 1961; Herzberg, Mausner, & Srydeman, 1959; Wollack, Goodale, Wijting, & Smith, 1971; Crites, 1961; Pryor, 1987). According to Michell (1982), orgnisation needs to have proper mechanism to identify what motivates employees externally because needs may differ on individual basis. Organiation has to first decide what factors are important for organsiton's effectiveness and what factors will result in producing expected behaviour. This task becomes even more challenging when the organization is dealing with diverse multi – generational workforce. Intrinsic and extrinsic motivational factors can be differentiated on the grounds that while intrinsic motivational factors push employees towards performance, extrinsic motivation induces or encourages performance. Hence task of management is not to push people towards performance but to pull them so that they achieve organizational goals voluntarily. (Locke & Latham, 2004; Michaelson, 2005). It is therefore very important that HR managers are not adopting any unethical practices or are not considering employees as just another factor of producing for motivating their employees and everything is achieving keeping in mind the equity theory failing which employees may react both affectively and behaviorally in unintended ways (Latham & Pinder, 2005; Shaw, 1996). If motivation is one of the major problems posing challenges to the HR department across the globe as Wylie (1997) indicates, understanding the differences in expectations among multigenerational workforce is essential to success. According to Kyles (2005), if the clashes and conflicts between generations at workplace are not managed effectively or if the generational members don't know or understand the generational values of their colleagues, there is every possibility of mis-understandings, and fights among them.

Thoroughly planned and executed policies, procedures and incentives are effective means of motivating the workforce. It is very essential that understanding of generational values and characteristics combined with regular employee surveys is carried out at regular intervals for gaining insight into what workforce expects and demands and further go a long way in helping organizations to gain competitive advantage.

Of all the literature survey done, it was found that lot of research has been done in various organizations among blue collar and white collar employees. However there is paucity in education sector and this study is a modest attempt to bridge the gap in this sector.

3. Data and Methodology

To achieve the objectives of the study i.e. to address the generational issues among faculty members of educational institutions in Delhi and NCR region and tries to infer whether significant differences exist among different generations regarding motivational factors towards work.

3.1 Research Objective

To what extent preferences for work motivators vary across generations

- *H1: There are significant differences on preferences for work motivators across generations*
- *Ho: There are no significant differences on preferences for work motivators across generations*

The research design for the present study was basically descriptive and exploratory in nature and a well structured questionaire is used in this regard to conduct the survey.

3.2 Survey Questionnaire

The survey instrument consisted of previously validated survey used by Montana and Lenaghan (1999) and Leschinsky and Michael (2004) comprising of 20 questions to find out generational differences on motivational factor among population consisting of faculty members working in Universities Colleges and Institutes approved by AICTE in Delhi and NCR region. Further, respondents were also asked to complete their demographic details which included their age (within a range), gender, and designations (Asst. Professor, Associate Professor and Professor), Salary Status and Marital status etc. A pilot study was conducted to validate the questionnaire the results of which are satisfactory and therefore the same questionnaire was used for actual research.

A convenience sample of faculty members working in Delhi and NCR area was used the study. Questionnaires were distributed to around 1100 respondents out of which 690 complete questionnaires were received. It was ensured that equal no. of questionnaires are received from all the generations i.e. Baby Boomers (1945–1964), Generation X (1965–1980) and Generation Y (1981–2000) since all the three generations are seen equally in the workplace. Of the 690 respondents, 260 respondents were female and 430 were male.

Table 1:

Year of Birth*Occupation Cross tabulation					
Count		Occupation			Total
		Assistant Professor	Associate Professor	Professor	
Year of Birth	1945–1964	15	59	156	230
	1965–1980	106	78	46	230
	1981–2000	197	33	0	230
Total		318	170	202	690

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Among the respondents, 202 participants were Professors, 170 participants were Associate Professors and 318 participants were Asst. Professors.

Factor Analysis and ANOVA were used to find out the differences among generations on what motivates them supplemented by descriptive statistics. Factor analysis is a set of techniques, which, by analyzing correlations between variables, reduces their number into fewer factors, which explain much of the original data, more economically. (Nargundkar, 2005).

4. Analysis and Interpretations of Results

This section contains the analysis and interpretations of results. To begin the analysis sample adequacy test was conducted the results of which are shown in table 1. The results are satisfactory with the value of KMO and Bartlett's Test i.e. (.867). This is in the acceptable range (Table 2).

Table 2: KMO and Bartlett's test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		**.867**
Bartlett's Test of Sphericity	Approx. Chi-Square	4118.166
	Df	171
	Sig.	.000

For this Variable, Measures of Sample Adequacy such as Bartlett's test of spherecity (approx chi-square is 4118.166, degree of freedom is 171, significance is 0.000) and KMO value (0.867) showed that data was fit for factor analysis. In order to have deep insights regarding factors influencing motivation across generations factor analysis was used for extracting factors and five factors were retained on the basis of Eigen values and variance explained (Refer Table 3).

Table 3: Total variance explained

Phase=Rotation Sums of Squared Loadings				
Component		**Total**	**% of Variance**	**Cumulative %**
dimension	1	2.762	14.539	14.539
	2	2.684	14.125	28.664
	3	2.327	12.247	40.911
	4	1.853	9.752	50.662
	5	1.617	8.508	59.171
Extraction Method: Principal Component Analysis.				

Thus five factors have been extracted which cumulatively explained 59.171% of the total variance. All the statements with factor loadings greater than 0.40 were considered in the corresponding factor. The name of the factors, variable labels and factor loadings are summarized in table 4:-

Eigen value represents the total variance explained by each factor, the results of which are shown in table 4. The table clearly shows that there are five factors having Eigen values more than 1 (in other words, a factor must explain at least as much of the variance if not more, than a single original variable) and clearly depicts that Factor 1 is linear combination of variable number 9, 17, 18, 16, 8. Factor 2 is linear combination of variable number 5, 10, 6, 11. Factor 3 is linear combination of variable number 15, 13, 14. Factor 4 is linear combination of variable number 3, 1, 19. Factor 5 is combination of variable number 2, 4, 12. After the number of extracted factors is decided, the next task is to interpret and name the factors. This is done by the process of identifying the factors that are associated with which of the original variables. The rotated factor matrix is used for this purpose. The factor matrix gives us the loading of each variable on each of the extracted factors. This is similar to correlation matrix, with loadings having values between 0 and 1. Values close to 1 represent high loadings and those close to 0, low loadings. The objective is to find variable which have high loading on one factor, but low loading on other factors.

All the factors have been given appropriate names according to the variables that have been loaded on each factor. The five factors depicted in table are discussed below:

Factor 1: Employee Social Security

The rotated matrix has revealed that respondents have perceived this factor to be one of the important factors with the highest explained variance of 14.539%. Five out of nineteen work motivator statements load on significantly to this factor. This factor has been named as Employee Security as it includes pension and security benefits, opportunities for working in teams, spending time with young ones, work and family balance and interesting job. Hence it can be concluded that social security at job is one of the most crucial factor influencing employees' motivation at work.

Factor 2: Feeling Appreciated/Recognition

This has been revealed to be next most important factor with explained variance of 14.125%. Four work motivators were loaded. Opportunity to produce quality work, appreciation for job well done, good relationships with colleagues and feeling of being important at work place were loaded high on this fac-

Table 4: Factor loadings of motivational factors

Factor No.	Name of Dimension	Item No.	Variables	Factor loading	Reliability
1	Employee Security	9	I have been clearly communicated about my pension and other security benefits in my job.	.763	0.777
		17	My job offers me enough opportunities of working with my colleagues as a team.	.651	
		18	My job offers me adequate opportunities to enjoy and spend time with young generation.	.614	
		16	My job profile and responsibilities do not disturb my work and family balance.	.593	
		8	I find my job very interesting.	.534	
2	Feeling Appreciated /Recognition	5	I get an opportunity to produce quality work.	.673	0.677
		10	My seniors appreciate me for job well done.	.666	
		6	I share very good inter - personal relationships with my colleagues at my workplace.	.657	
		11	I feel that my job profile is very important in the organization.	.531	
3	Skill Updation and Evaluation	15	My job offers me the opportunity to update my skills on a continuous basis.	.694	.666
		13	I am recognized by my bosses when I complete my assignments on time.	.561	
		14	I am evaluated on the basis of my performance.	.528	
4	Status of Job	3	I am getting a handsome salary.	.733	0.645
		1	My immediate superior respects me a lot.	.607	
		19	My job profile is respected and appreciated by people around me.	.533	
5	Work Conditions	2	I get adequate rest periods and breaks during my working hours.	.780	0.496
		4	Infrastructural facilities are very good in my organization.	.576	
		12	My job offers me the opportunity to do variety of jobs at one time.	.485	

tor and thus the factor has been named as Feeling Appreciated/ Recognition. It can be concluded that quality of job assignments and recognition is the second most important factor influencing employee's motivation at work.

Factor 3: Skill Updation and Evaluation

This is the next important factor with 12.247% of the variance. Three work motivators which were loaded high on this factor included opportunities for skill updation, recognition by boss for timely completion of assignments and evaluation based on performance. Since skill updation and performance evaluation both have high loadings on this factor, the factor has been named as skill updation and Evaluation.

Factor 4: Status of Job

Three work motivators were loaded on this and together account for 9.752% of the variance. This factor includes motivators like handsome salary, respect from superiors and appreciation by people around and thus the factor has been assigned the name of Status of Job.

Factor 5: Work Conditions

Three types of features load on this factor and together account for 8.508% of the variance. This factor includes adequate rest periods and breaks, good infrastructure and opportunity to do multiple jobs at one time. Since opportunities for rest periods and breaks and good physical infrastructure were loaded high, the factor has been named as work conditions.

4.1 Effect of Generations on Motivation Factor

H0: There is no significant difference between the mean scores of Motivation Factor for the three generations. For ascertaining whether significant difference exists between various generations, one way ANOVA is applied. One of the assumptions of the one way ANOVA is the Homogeneity of Variance, which is measured by Levene's test. When the Significance value of Levene's test is less than 0.05 it indicates that the assumption of Homogeneity of Variance is violated and F-test may give misleading results here. In this case, Welch test is used; else when the Significance value of Levene's test is less greater than 0.05 F-values will be seen for the analysis.

Decision rule: When the significance value of F-test/Welch test is less than 0.05, Null hypothesis is rejected. When the Null Hypothesis is rejected, Post Hoc analysis will be used for further ascertaining which groups differ among their mean score. There are different methods for Post hoc analysis. When assumption of Homogeneity of Variance sustains, Tukey HSD method is used and when this assumption is violated Tumhane's method is used.

Table 5: Effect of Generations on Various Work Motivator Factors

Factors	Levene Statistic	Sig.	F	Sig.	Welch Statistics	Sig.
Employee Social Security	46.658	.000	.839	.433	.964	.382
Feeling Appreciated/ Recognition	3.273	.038	3.546	.029	3.304	.038
Skill Updation and Evaluation	4.496	.011	13.130	.000	15.016	.000
Status of Job	3.861	.022	7.365	.001	6.174	.002
Work Conditions	.185	.831	1.045	.352	1.061	.347

In the Table 5, assumption of Homogeneity of Variance is violated for first four factors. So, corresponding significance values of Welch Statistics are considered. Sig. value of Welch test indicates that Null hypothesis is rejected for three out of five factors viz. Feeling Appreciated/ Recognition, Skill Updation and Evaluation, Status of Job and hence there are significant differences between the three generations as regards these three factors are concerned. For ascertaining the difference between the mean score of three generations Descriptive Statistics was used for all the three factors. The scale contained statements which were to be rated from 1 – Strongly Important to 5–Strongly Unimportant; hence higher mean score indicates less importance for that particular factor, see table 4.

Table 6: Results of descriptive

Descriptives		
Statistics = Mean		
Feeling Appreciated/ Recognition	1945–1964	-.0023877
	1965–1980	-.1224973
	1981–2000	.1248850
Skill Updation and Evaluation	1945–1964	.2590024
	1965–1980	-.0599684
	1981–2000	-.1990340
Status of Job	1945–1964	.1904062
	1965–1980	-.1603951
	1981–2000	-.0300111

From Table 6 & 7 it can be concluded that Factor 2 Feeling Appreciated / Recognition is not that important to Generation Y (1981–2000) as it is to other two generations.

Similarly, Factor 3 Skill Updation and Evaluation (refer Table 7 and 8) and Factor 4 Status of Job (refer Table 6 and 9) carry less importance to Baby Boomer Generation (1945–1964) as compared to Generation X and Generation Y. For detailed analysis Post hoc analysis (Tamhane Method) was employed.

4.2 Multiple Comparisons

Table 7: Dependent variable: feeling appreciated/ recognition Tamhane

(I) Year of Birth	(J) Year of Birth	Mean Difference (I–J)	Std. Error	Sig.
1945–1964	1965–1980	.12010960	.08914268	.446
	1981–2000	-.12727267	.09323592	.434
1965–1980	1945–1964	-.12010960	.08914268	.446
	1981–2000	-.24738227(*)	.09620932	.031
1981–2000	1945–1964	.12727267	.09323592	.434
	1965–1980	.24738227(*)	.09620932	.031

*The mean difference is significant at the .05 level.

The factor 2.2 Feeling Appreciated/Recognition include statements like I got opportunity to produce quality work, my seniors appreciates me for a job well done, I share good inter-personal relationships with my colleagues at my work place and my job is very important in the organization. Generation Y being the youngest generation at the workplace comprises of people who are multi-tasking. For them their work life balance and handsome salary is more important as compared to being appreciated by the boss for job well done. Further, they are so connected with the outside world through social media's that they don't give much importance to maintaining good interpersonal relationships with their colleagues at workplace. They are not emotional people; rather they apply practical approach towards their work.

4.3 Multiple Comparisons

Table 8: Dependent variable: Skill Updation and Evaluation Tamhane

(I) Year of Birth	(J) Year of Birth	Mean Difference (I–J)	Std. Error	Sig.
1945–1964	1965–1980	.31897078(*)	.09063337	.001
	1981–2000	.45803640(*)	.08695458	.000
1965–1980	1945–1964	-.31897078(*)	.09063337	.001
	1981–2000	.13906562	.09707800	.392
1981–2000	1945–1964	-.45803640(*)	.08695458	.000
	1965–1980	-.13906562	.09707800	.392

*The mean difference is significant at the .05 level.

The factor 2.4 Skill Updation and Evaluation include statements like my job offers me the opportunity to update my skills on continuous basis, I am recognized by my bosses for completing assignments on time and I am evaluated on the basis of my performance. Baby Boomer Generation (1945–1964) comprises of people who are at the verge of retirement or will be retired in coming ten years. They have already achieved what all targets they people have set for them in their professional life. Thus, enhancing skills or updating their knowledge is not that important for them as is important to Generation X and Generation Y who have started their careers shortly and still have to step up the ladders of success in their professional life. Further, Baby Boomer generation is very particular about their seniority and experience they have gained during their professional tenure. For any promotions decisions, they therefore prefer their organizations to consider their seniority or experience as compared to younger generations who wants to be evaluated on the basis of their performance on the job rather than no. of years of experience.

Table 9: Multiple comparisons dependent variable: status of job Tamhane

(I) Year of Birth	(J) Year of Birth	Mean Difference (I–J)	Std. Error	Sig.
1945–1964	1965–1980	.35080136(*)	.09989813	.001
	1981–2000	.22041728	.09732214	.070
1965–1980	1945–1964	-.35080136(*)	.09989813	.001
	1981–2000	-.13038408	.07850146	.265
1981–2000	1945–196	-.22041728	.09732214	.070
	1965–1980	.13038408	.07850146	.265

*The mean difference is significant at the .05 level.

The factor 2.4 Status of Job includes statements like I am getting a handsome salary, my immediate superior respect me a lot and my job profile is respected and appreciated by people around me. Again Baby Boomer Generation (1945–1964) comprises of employees who are aged above 55 and will be reaching their retirement very shortly. Most of them have discharged their family responsibilities and are settled. Rather than earning a handsome salary, they prefer comfortable job which is near to their place, does not require them to move very frequently or does not include a job which is target oriented. Since their age does not allow them to take much stress and tension which will result in medical complications.

Ranking of Means: The results of the means ratings for the 19 work motivator preferences measured in the study indicate that there were both significant agreement and disagreements on the top five work motivators for each generation. Table 10 illustrates the mean scores for the top work motivator preferences and the ranking that each had within the different generations. Interesting Job was ranked 1st by Baby Boomers, 3rd by Generation X and 5th by Generation Y. Opportunity to produce quality work was ranked 1st by Generation X and 2nd by both Baby Boomers and Generation Y. Being evaluated on the basis of performance was ranked 1st by Generation Y while it was ranked 4th by Generation X. Opportunity to produce quality work was ranked 2nd by both Baby Boomers and Generation Y. Being evaluated on the basis of performance was ranked 1st Generation Y while it was ranked 4th by Generation X. This factor, however, didn't find place in the Baby Boomer's list of top motivators.

5. Summary and Conclusions

Responses to the questions in the survey were subjected to (1) a principal components Factor Analysis to reduce the number of items to a smaller set of factors that could be used to under-

Table 10: Distribution of top five highest means scores by generation for preferences of work motivators

Sr. No.	Motivator	Overall Mean	Ranking		
			Baby Boomer	Generation X	Generation Y
1	I find my job very interesting.	1.59	1	3	5
2	I get an opportunity to produce quality work.	1.6	2	1	2
3	My job profile is respected and appreciated by people around me.	1.61	3	2	3*
4	I am evaluated on the basis of my performance.	1.66		4	1
5	My job offers me the opportunity to update my skills on a continuous basis.	1.68			3*

*Indicates motivators that scored the same mean and therefore received the same ranking within that generational group.

stand underlying patterns within the survey items (Jolliffe, 2002), (2) Annova was used to find out the differences between the three generational groups and (3) a ranking of means to compare the top ranked items among the generations for each question.

The null hypotheses positing that there are no statistically significant differences in preferences of work motivators among the three generational cohorts of faculty members was rejected. Significant differences existed among generations on factors viz. Feeling Appreciated/ Recognition, Skill Updation and Evaluation and Status of Job. Understanding the differences among generations in their preferences of work motivators has practical applications also. Understanding these differences can help organizations create better talent acquisition and retention strategies that target the preferences of each generation (e.g., recruiting strategies focused on Generation Y motivators, who will predominantly come from the Gen Y population). These strategies can involve both targeted communication regarding policies that the company wants to highlight, as well as revisions of policies and resources to offer work environments more closely aligned with generational preferences (e.g., properly resourced projects that provide Baby Boomers an opportunity to turn out quality work and at the same time ensure skill updation and evaluation and work life balance for Generation X and Generation Y).

It was found that both Generation X and Y share chances to update skills on continuous basis, opportunity to turn out quality work and being evaluation on the basis of performance as top motivators. Academic institutions are therefore required to ensure that effective strategies are adopted in the institute to ensure that the right knowledge and skills training is provided from time to time so that these young academicians remain competitive internally for promotion. For the Baby Boomer Generation also, organization should try to evolve opportunities wherein this generation can contribute through their vast knowledge and experience. They should be given a mentoring role through which they can train and guide the upcoming new generations with their expertise in the field. Other than this, open house sessions can be organized in which members from different generations are encouraged to share information about their backgrounds, beliefs, value systems and important influences. This will open the door to a productive discussion of differences and preventing serious conflicts from arising and helps in developing respect for ideas and beliefs of other generations.

5.1 Future Research

Because the population for this study was limited to faculty members working in Universities and colleges and Institutes approved by AICTE in Delhi and NCR, similar studies can be undertaken in other parts of country to have a broader view of perceptions and influencers of different generations of faculty members. Better understanding these motivators as applied to the larger population of faculty members in education industry could provide insights for creating strategies to attract young university graduates to work in this industry and stop the exodus of mid-career teaching professionals from the industry who are needed to fill the gap created when Baby Boomers will retire.

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Study of Supply Chain Quality Parameters

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Abstract

Supply chain quality management practices have resulted in to a new era for the industries of different cross sections and specialization globally. Few researches have been conducted in this area. Industries and practitioners cannot even think of compromising with the quality in today's context resulting into severe losses and product recall. In order to avoid serious damage to the brand and image of the organization due to lack of quality the quality of supply chain as a whole can be a good measure. In this paper authors investigated the supply chain quality of the five different industries such as Automotive, Petrochemical, Pharmaceutical, FMCG and Perishable goods on the basis of quality parameters. The quality parameters give a better understanding to find out which parameter should be focus for designing a quality supply chain with respect to specific industry.

Keywords: suppy chain, quality management, quality parameters

1. Introduction

Supply chain term was first coined in the early 1980s to describe the range of activities coordinated by an organization to procure and manage supplies (Oliver & Webber, 1982). Supply chains encompass the companies and the business activities needed to design, make, deliver, and use a product or service. Businesses depend on their supply chains to provide them with what they need to survive and thrive.

"A supply chain consists of all stages involved, directly or indirectly, in fulfilling a customer request. The supply chain not only includes the manufacturer and suppliers, but also transporters, warehouses, retailers, and customers themselves." (Chopra and Meindl, 2001).

Customers have so much choice nowadays from an enormous field of competitors that delays in supply mean delays for the customers who probably are not willing to wait when they can obtain the same or similar substitute product elsewhere. Based on the above facts it is observed that the supply chain management has become important and critical aspect to the profit making of any organization. But, the quality management issues have also impacted the performance of supply chain in one way or other. Therefore one must understand the meaning of quality management.

The quality definition as specified by Joseph Juran, "Quality is the fitness of use" i.e. it is the value of the goods and services as perceived by the supplier, producer and customer. The measure also pertains to the degree to which products and services conform to specifications, requirements and standards at an acceptable price. Some of the definitions of Quality, provided by quality gurus are as follows:

1. Quality is conformance to requirements (CROSBY)
2. The efficient production of the quality that the market expects (DEMING)
3. Quality is what the customer says, it is (FEIGENBAUM)
4. Quality is the loss that a product costs to the society after being shipped to the customer (TAGUCHI)

As per the above definitions for quality, Quality management in supply chain can be defined as conformance to requirements. Therefore we can say that the quality requirements from the supplier's point of view may be an efficient and seamless flow of activities and resources to the manufacturer so that the optimum gains in terms of profit and highest rating from the manufacturer can be achieved for maximum possible time. The quality requirements from the manufacturer's point of view may be the optimum integration and utilization of resources to satisfy the

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internal as well as the external customers in terms of goods and services offered.

2. Literature Review

SCM was initially related to the management of inventory within a supply chain. This concept was later broadened to include the management of all functions within a supply chain. Supply chain management involves the management of flows between and among stages in a supply chain to maximize total profitability" (Chopra & Meindl (2001). This definition suggests that SCM involves management of the flows of products, information, and funds upstream and downstream in the supply chain. SCM also entails making decisions about the locations of production facilities, which products to produce, how to produce them, and finally, how to distribute these products (Sila Ebrahimpour, & Birkholz, 2006).

The areas of Supply chain which has been researched predominantly includes Supply chain Performance (Ou, Liu, Hung, & Yen, 2010; Papakiriakopoulos & Pramatari, 2010; Kim. Kumar, & Kumar, 2010; Fantazy, Kumar, & Kumar, 2009), Supply chain collaboration, Supply chain Integration (Karkoszka, 2011; Lin & Gibson, 2011), Supply chain agility (Agarwal, Shankar, & Tiwari, 2007), Supply chain Network design etc. As a result, it has been discovered that this subject requires radical thinking because the vastness of the topics is neither well defined nor easily implemented. Empirical quality management (QM) research has evolved over the last 20 years. Empirical research has defined and measured QM practices (Ahire, Golhar, & Waller, 1996; Flynn, Schroeder, & Sakakibara, 1994; Nair, 2006; Saraph, Benson, & Schroeder, 1989; Sila & Ebrahimpour, 2005). Numerous studies have investigated the relationships among QM practices and various aspects of a firm's performance (Adam et al., 1997; Ahire & O'Shaughnessy, 1998; Dow, Samson, & Ford, 1999; Kaynak, 2003). As competition moves beyond a single firm into the supply network of multi firms, focus is shifting from management of internal practices alone to the management of external firms. Quality managers must integrate their firms' practices with those of customers and suppliers (Flynn & Flynn, 2005; Kannan & Tan, 2005; Robinson & Malhotra, 2005; Sila, Ebrahimpour, & Birkholz, 2007). Integrating QM and supply chain management (SCM) will be important for future competitiveness (Flynn & Flynn, 2005; Matthews, 2006; Robinson & Malhotra, 2005).

Supply chain quality management (sharma, Agarwal, & Garg. 2013) has been explored by researchers where six hypotheses related to Supply chain quality management developed through literature review and tested using survey data from US manufacturing companies (Sila Ebrahimpour, & Birkholz, 2006). Relationship between supply chain quality management practices and organizational performance have been researched and it was found that organizational performance could be enhanced through improved supply chain quality management (Kuei, Madu, Lin, & Chow, 2001; Gilaninia, Delafrooz & Zarezadeh, 2012; Malik, Sinha, & Blumenfeld, 2012). Robinson and Malhotra, (2005) defined the concept of supply chain quality management as the formal coordination and integration of business processes involving all partner organizations in the supply channel to measure, analyse and continually improve products, services (seth, Deshmukh, & Vrat, 2006), and processes in order to create value and achieve satisfaction of intermediate and final customers in the marketplace. They also found out its relevance to academic and industrial practice and proposed a Quality-SCM framework. Cagnazzo, Taticchi & Brun (2010) identified role of performance measurement systems to support quality improvement initiatives at supply chain level. Carmignani (2009) modified interpretation of ISO 9001:2000 norm and introduced a research to determine a standard to implement a management system for a whole supply chain through the identification of the main supply chain processes and drivers. Peters (1999) discussed service quality and total quality management as a business strategy designed to add value to customers. Lo & Yeung (2006) in their work on managing quality effectively in supply chain extracted ten critical factors for describing a Supply Quality Management system. These factors could be clustered into three major groups namely supplier selection, supplier development and supplier integration. This study has not covered the relationship among supply quality management, supplier quality and buyer quality. (Kuei, Madu, Lin, & Chow, (2002) in their work developed a two stage frame work on supply chain quality and technology relate to only upstream of supply chain. Foster (2008) defined supply chain quality management (SCQM) to operationalize and understand the effect of increased emphasis on supply chain management on the practice of quality management. Reviewed current research in quality management and identified common themes found in the literature. Key quality management content variables identified are customer focus, quality practices, supplier relations, leadership, HR practices, business results, and safety. Based on these variables he proposed areas for future research in the field of supply chain quality management. Fynesa, Vossb, & Bu´rcac, (2005) in their work on the impact of supply chain relationship quality on quality performance developed a conceptual framework incorporating dimensions of SC relationships and quality performance. Kaynak & Hartley (2008) found that the inclusion of customer focus and supplier quality management in the QM

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model supports the importance of internal and external integration for quality performance. Beamon & Ware (1998) proposed a process quality model for the analysis, improvement and control of supply chain and concluded that the coordination of logistics functions into integrated supply chain systems has increased the need for improved process quality. Improving the quality of all supply chain processes results in reduced costs (Ramudhin, Alzaman, & Bulgak, 2008), improved resource utilization, and improved process efficiency.

Considering the literature reviewed it is observed that researches has been hardly done on the supply chain quality management and there is hardly any giving insight about the quality of supply chain or the variables or parameters which are responsible to make the supply chain a quality supply chain.

3. Methodology

Based on the literature review and opinion of the experts from the five industry segments different parameters for quality of supply chain have been identified to obtain the priority in the quality parameters among different industry ANP modeling is performed. These parameters are Agility, Efficiency, Coordination, Integration, Collaborative planning, Product quality (Agus & Hajinoor, 2012; Tse & Tan 2012), Customer satisfaction, Supply chain information, Flexibility and Supplier quality. The parameters are judged according to the specific industry.

The parameters selected as above are considered as criteria and the industries are considered as the alternatives. As per ANP modeling the criteria vs. criteria is put in the pair wise comparison matrix and weightage is found out by comparing the both i.e. criteria and alternative as shown in figure 1. By pair wise comparison SAATY scale (1 to 9) the weightage of the criteria for each industry have been found out to measure the supply chain quality characteristics. Finally the alternatives ranking is found out by comparing both the criteria and the alternatives.

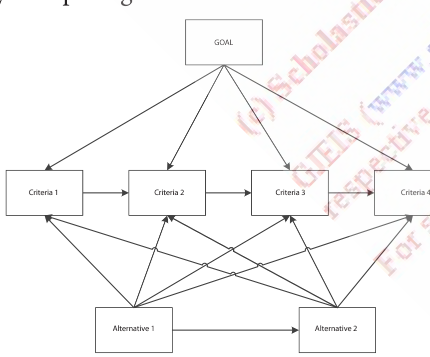

Figure 1. ANP Model.

As shown in table 1 the comparison of the criteria are done to find out the most significant to the least significant criteria for pharmaceutical industry. In the case shown below the inconsistency came out to be 0.0443 which is well below 0.1 and hence the matrix shown in table 1 can be considered as unbiased matrix. The above five supply chains in table 1 to 5 for different industries are as shown below. These tables clearly indicates that each supply chain is unique in nature and depends on number of dependent parameters such as location, logistics, design of supply network (Das & Sengupta, 2010), type of product etc. Common parameters are carefully chosen to compare supply chain with each other to see the characteristic of the supply chain as shown in figure 2.

Table 1: Pharmaceutical Industry: Inconsistency 0.0443

Name	Normalized	Weightage %
Agility	0.05	5.04
Efficiency	0.09	8.64
Coordination	0.06	0.22
Integration	0.06	8.31
Collaborative planning	0.08	4.69
Product quality	0.05	21.97
Customer satisfaction	0.22	26.74
Supply chain information	0.27	5.76
Flexibility	0.06	5.76
Supplier quality	0.06	7.32

Table 2: Perishable goods industry: Inconsistency 0.0898

Name	Normalized	Weightage
Agility	0.05	4.68
Efficiency	0.19	18.79
Coordination	0.09	8.68
Integration	0.09	8.93
Collaborative planning	0.04	3.93
Product quality	0.15	14.62
Customer satisfaction	0.21	21.04
Supply chain information	0.05	5.04
Flexibility	0.07	6.61
Supplier quality	0.08	7.70

Table 3: FMCG industry: Inconsistency 0.06436

Name	Normalized	Weightage
Agility	0.03	2.85
Efficiency	0.14	14.05
Coordination	0.05	5.13
Integration	0.06	5.66
Collaborative planning	0.05	5.19
Product quality	0.15	14.64
Customer satisfaction	0.30	29.86
Supply chain information	0.05	4.61
Flexibility	0.08	7.59
Supplier quality	0.10	10.42

Table 4: Automotive Industry: Inconsistency 0.06

Name	Normalized	Weightage
Agility	0.02	2.14
Efficiency	0.03	3.39
Coordination	0.08	7.92
Integration	0.07	6.92
Collaborative planning	0.10	9.57
Product quality	0.18	18.45
Customer satisfaction	0.27	27.00
Supply chain information	0.06	6.50
Flexibility	0.06	6.49
Supplier quality	0.12	11.63

Table 5: Petrochemical Industry: Inconsistency 0.06

Name	Normalized	Weightage
Agility	0.08	7.77
Efficiency	0.10	9.91
Coordination	0.13	13.00
Integration	0.08	7.76
Collaborative planning	0.05	4.91
Product quality	0.07	6.66
Customer satisfaction	0.25	24.73
Supply chain information	0.10	9.64
Flexibility	0.09	8.67
Supplier quality	0.07	6.96

The importance of each parameter for the supply chain of different industries is as shown from figure 3–13.

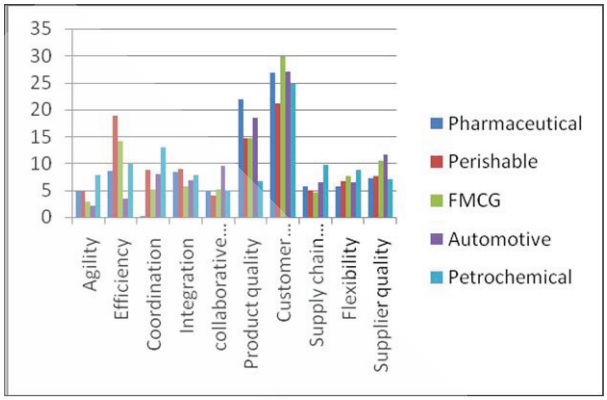

Figure 2. Parameter chart.

Table 6: Supply Chain Quality – Inconsistency 0.057

Name	Normalized	Weightage
Agility	0.032	3.188
Efficiency	0.052	5.208
Coordination	0.037	3.658
Integration	0.037	3.658
Collaborative planning	0.055	5.541
Product quality	0.224	22.443
Customer satisfaction	0.320	31.953
Supply chain information	0.036	3.601
Flexibility	0.037	3.692
Supplier quality	0.171	17.059

4. Result and Discussion

As shown in figure 2 agility is important for petrochemical industry. Perishable goods industry requires the efficient supply chain in order to prevent the losses due to damage of perishable nature of goods. Supply chain coordination is considered most important for the petrochemical industry. Supply chain integration is important for the perishable goods industry in comparison to other industries. Collaborative planning takes first place in case of automotive industries. Product quality is most important for the pharmaceutical industry as compared to the others. Interestingly customer satisfaction comes out to be approximately equal in case of all the organizations but equal but FMCG industry tops in that. It may be

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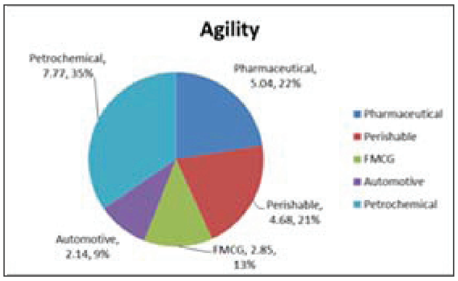

Figure 3. Agility – Inconsistency 0.074.

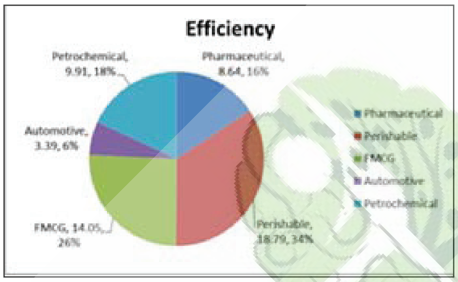

Figure 4. Efficiency – Inconsistency 0.055.

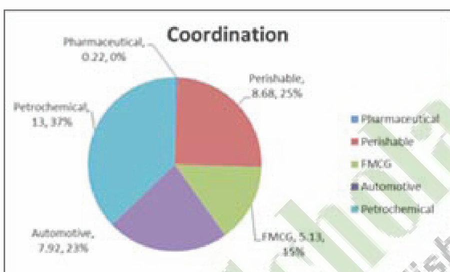

Figure 5. Coordination – Inconsistency 0.033.

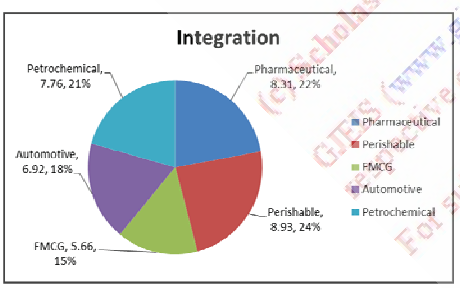

Figure 6. Integration – Inconsistency 0.078.

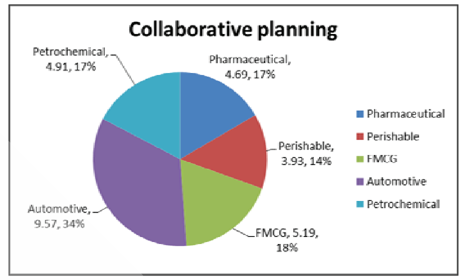

Figure 7. Collaborative planning – Inconsistency 0.070.

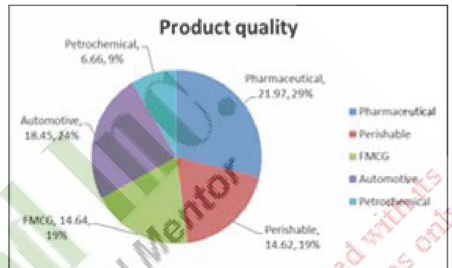

Figure 8. Product Quality – Inconsistency 0.096.

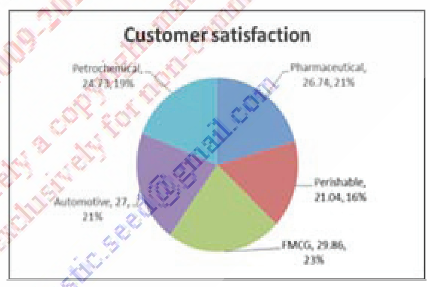

Figure 9. Customer Satisfaction – Inconsistency 0.078.

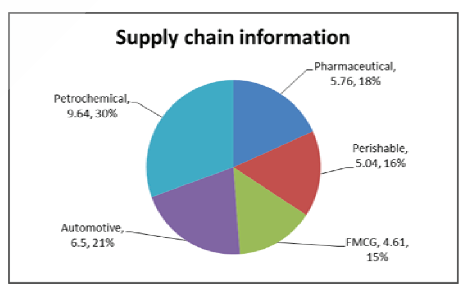

Figure 10. Supply Chain Information – Inconsistency 0.079.

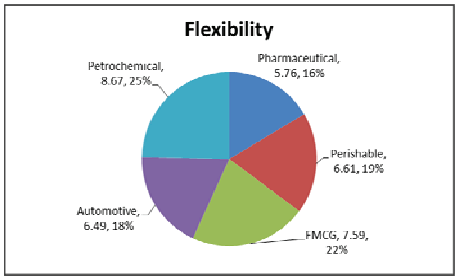

Figure 11. Flexibility – Inconsistency 0.065.

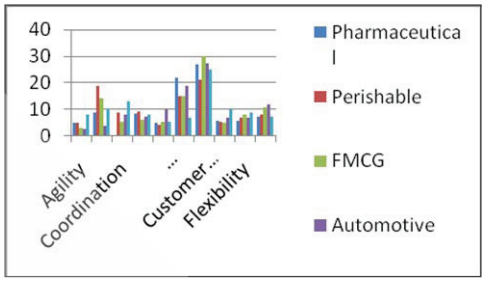

Figure 13. Parameter chart.

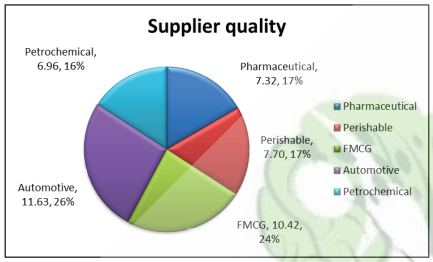

Figure 12. Supplier quality – Inconsistency 0.073.

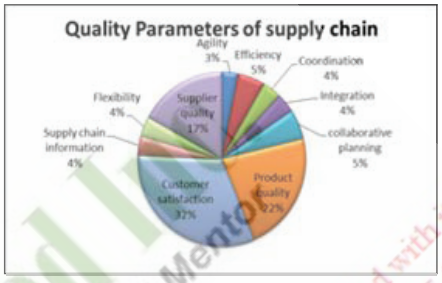

Figure 14. Quality parameters of supply chain.

because of easy availability of alternative products for the customer. Petrochemical tops in the supply chain information followed by automotive industry. Flexibility is approximately equally important for all the industries but petrochemical tops in it followed by automotive industry. Supplier quality is most important for automotive industry followed by FMCG.

As depicted in figure 14 customer satisfactions comes out to be the most important criteria for any of the five industries supply chain under consideration. Second to customer satisfaction is product quality followed by supplier quality. Interestingly the three criteria are interrelated to each other to a great extent i.e. customer can only be satisfied if the product quality is good and in order to have good product quality supplier quality should be good.

5. Conclusion

Supply chain quality can be considered a good measure for the health of the organization. If the quality of supply chain is good then the products will automatically be quality product and this will surely create a good brand image for the organization. The purpose of this study was to identify measurement parameters for supply chain quality that could be used by the manufacturers to design their supply chain focusing on the overall quality. There can be common parameters to judge the quality of different supply chains however the same parameters can be used to compare the various supply chains of an industry. In this paper authors investigated and identified the quality parameters for the supply chains of five industries namely automotive, petrochemical, pharmaceutical, FMCG and perishable goods. Customer satisfaction comes out to be the most important quality criteria.

Product quality, Customer satisfaction and supplier quality have emerged as the most important quality parameters of all the considered supply chains. Supply chain quality parameters identified in this paper are based on the literature review and interview with the experts in five industries. More number of supply chain quality parameters can be identified. In further research supply chain of Agriculture, Education, Health and Finance industries can be investigated on the basis of supply chain quality parameters. A descriptive analysis can be carried out to gauge the level of supply chain quality in these industries.

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Role of Information Technology in Banking Industry

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Abstract

Technology has continuously played on important role in the working of banking institutions and the services provided by them. Information Technology enables sophisticated product development, better market infrastructure, implementation of reliable techniques for control of risks and helps the financial intermediaries to reach geographically distant and diversified markets. Internet has significantly influenced delivery channels of the banks. Internet has emerged as an important medium for delivery of banking products and services. Banking environment has become highly competitive today. To be able to survive and grow in the changing market environment banks are going for the latest technologies, which is being perceived as an 'enabling resource' that can help in developing learner and more flexible structure that can respond quickly to the dynamics of a fast changing market scenario. It is also viewed as an instrument of cost reduction and effective communication with people and institutions associated with the banking business.

Keywords: banking industry, banking business, technology innovation, information technology, MIS

1. Introduction

Technology has opened up new markets, new products, new services and efficient delivery channels for the banking industry. Online electronics banking, mobile banking and internet banking are just a few examples.

Information Technology has also provided banking industry with the wherewithal to deal with the challenges the new economy poses. Information technology has been the cornerstone of recent financial sector reforms aimed at increasing the speed and reliability of financial operations and of initiatives to strengthen the banking sector.

The IT revolution has set the stage for unprecedented increase in financial activity across the globe. The progress of technology and the development of worldwide networks have significantly reduced the cost of global funds transfer. It is information technology which enables banks in meeting such high expectations of the customers who are more demanding and are also more techno-savvy compared to their counterparts of the yester years. They demand instant, anytime and anywhere banking facilities.

IT has been providing solutions to banks to take care of their accounting and back office requirements. This has, however, now given way to large scale usage in services aimed at the customer of the banks. IT also facilitates the introduction of new delivery channels--in the form of Automated Teller Machines, Net Banking, Mobile Banking and the like. Further, IT deployment has assumed such high levels that it is no longer possible for banks to manage their IT implementations on a stand alone basis with IT revolution, banks are increasingly interconnecting their computer systems not only across branches in a city but also to other geographic locations with high-speed network infrastructure, and setting up local area and wide area networks and connecting them to the Internet. As a result, information systems and networks are now exposed to a growing number. Entry of new banks resulted in a paradigm shift in the ways of banking in India. The growing competition, growing expectations led to increased awareness amongst banks on the role and importance of technology in banking. The arrival of foreign and private banks with their superior state-of-the-art technology-based services pushed Indian Banks also to follow suit by going in for the latest technologies so as to meet the threat of competition and retain their customer base. Indian banking industry, today is in the midst of an IT revolution. A combination of regulatory and competitive reasons, have led to increasing importance of total banking automation in the Indian Banking Industry.

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Information Technology has basically been used under two different avenues in Banking. One is Communication and Connectivity and other is Business Process Reengineering. Information technology enables sophisticated product development, better market infrastructure, implementation of reliable techniques for control of risks and helps the financial intermediaries to reach geographically distant and diversified markets. In view of this, technology has changed the contours of three major functions performed by banks, i.e., access to liquidity, transformation of assets and monitoring of risks. Further, Information technology and the communication networking systems have a crucial bearing on the efficiency of money, capital and foreign exchange markets. Internet has significantly influenced delivery channels of the banks. Internet has emerged as an important medium for delivery of banking products & services. Detailed guidelines of RBI for Internet Banking has prepared the necessary ground for growth of Internet Banking in India.

2. Literature Review

Nair, K.N.C (2006) Banks will continue to find newer and innovative ways of using technology to serve their customers better. Technology advances like Data Mining and Business Intelligence will enable and empower branch personnel to realize higher customer life cycle value.Banking and financial services have undergone a dramatic transformation over the past decade. Banks today face unprecedented challenges to sustain their growth path, if not for survival. Some of the significant challenges the present-day bankers face include customer acquisition and retention, reducing cost of transactions, risk management, regulatory compliance like Basel II, etc. Effective use of technology, however, has greatly helped the banking sector to transform these challenges into opportunities. Technology absorption in banks may be broadly classified into three phases. In the first phase, banks targeted to reduce their operating costs through better efficiencies. To achieve that, they streamlined their back-office processing and eliminated error-prone manual input of data. Second, banks saw opportunities in serving their existing customers and attracting new customers by way of offering new products and services as well as enhancing the convenience and value of existing products and services. Third, with highly powerful data storage and analysis technologies, banks are able to develop and implement sophisticated risk- and information-management systems and techniques.

Bhattacharya, A. (2006) Initiation of Information Technology and Communications networking system is set to change the operating environment of banks drastically. Technology has already enabled some of the banks to introduce innovative products to their customers in the form of ATM facility, Telebanking, Home Banking, 'Anytime' and 'Anywhere' banking, etc. Technology can also be harnessed in automating and networking the branches that will ensure timely flow of information and aid decision making process .The banks that can adopt and absorb the new technology faster will have a competitive edge over their rivals. The changes brought about by IT (Information Technology), new products, more sophisticated customers, changing cost structures, and enhanced competitive pressures have all combined to transform the structure of the banking industry. And with further development of new technologies, the industry will likely continue to evolve. Customers of banks have felt the positive impact of technological solutions implemented by banks. The customers of banks of today have a virtual menu of options as far as delivery channels are concerned and all these are the benefits of technology. With the most visible benefits happening in the areas of payments for retail transactions, a variety of cards, Automated Teller Machines, Electronic based funds transfers, Internet banking, Mobile banking are all some of the latest technology based payment solutions, which have gained large acceptance amongst the Indian banking public. With technological solutions rapidly evolving, more new products and services may soon become the order of the day. Though infrastructure and communication advancements remain an area of concern, in the rural areas, standards are being formulated to make banking a secure and pleasant experience and banks have bridged the divide caused by distances by offering 'Anywhere and Anytime banking'.

Goi, C. L. (2005) E-banking has to be a delivery channel that replicates and replaces many of the physical functions a bank currently performs. Hence, the E-banking now becomes a virtual banking counter that the individual and corporate customer to carry out the regular activities. Even E-banking services more to electronic-based, but, it still strongly support banking activities, therefore communication, transaction and distribution (Peterson, Balasubramanian and Bronnenberg, 1997). There are number of challenges need to be faced by Malaysian banks, however, the opportunity in this industry is high due to the current trend especially application and development of ICT.

Nyangosi Richard, Dr. Arora J.S. (2009) Studied that the offers vital managerial and policy implication for Kenyan commercial banking industry as well as other financial institutions willing to offer banking services through ATM technology /distribution channel. This empirical study examined the adoption

behavior of Kenyan commercial bankers. The findings revealed that among the e-channels surveyed, ATM was the most adopted technology by the banks.

Dr. Vanniarajan T. (2008), Studied an empirical analysis of the services quality factors determining the customer's satisfaction, using a structural model—results of the present study reveal that the important service qualities in commercial banks are credibility, customization, service consistency, access, services components, tangibility and innovation.

Saurabh, Taggar Rashi, Dr. Giri sunil (2009), observed that self service options have penetrated deep into the market and are being used by users to a great extent. The frequency of using self service options is far greater than going for traditional banking methods. The customers have a perception that self service options save time, reduce traveling, are 24 hr available, update accounts instantly and are attractive to use.

Biswas Nigamananda (2010), Highlighted the benefits obtained through adopting technology in banking services. The synergy between computer and communication technology has really changed the banking milieu. Technological advancements throw new challenges to the employees in the banking sector. Banking technology must provide excellent and secured services to customers for the sustained development of this sector.

Buddhika S.A. (2010), the objective of this study was to find out customer perception about the prevailing service quality levels at private sector banks situated in hambantota and find out the influence of customer demographics on service quality. Research concludes that there is an influence of customer demographics on customer satisfaction and on customer perceived service quality.

Dr.Kaur Amrinder (2010), studied the public sector banks in relation to foreign banks. The comparative study of the satisfaction level of the customers of public sector banks and foreign banks reflects two view points. The study brings out that sizable number of customers is satisfied with the public sector banks largely because of their traditional approach and mind set towards banking and present attention provided by them.

3. A Total System Approach

An individual's behaviour can be analyzed keeping in view his psychological framework, interpersonal-orientation, group influence and social and cultural factors; thus, individual's nature is quite complex and organizational behaviour by applying systems approach tries to find solutions for this complexity.

Critical factors of innovative organizational culture

An extensive list of critical factors of organizational culture was consolidated from literature reviews by a recent study. It embedded beliefs and behaviours found from innovative organizations suggested by other researchers and is depicted in Figure 1.

Figure 1: Critical factors and elements of innovative organization

Factors	Organizational Climate (OCL)	Organizational Characteristics (OCH)	Organizational Context (OCO)
Elements	Risk Orientation (RO)	Formalization (FO)	Learning Ability (LA)
	External Orientation (EO)	Centralization (CE)	Organizational Slack (OS)
	Achievement Orientation (AO)	Specialization (SP)	

They are divided into three categories of factors, namely, Organizational Climate (OCL), Organizational Characteristics (OCH), and Organizational Context (OCO). OCL represents the top management beliefs and commitments to provide an atmosphere to improve the innovativeness of an organization. OCH represents the structural characteristic of an organization that contributes to the innovativeness, while OCO represents the abilities of an organization to maintain as a learning organization and sustains the competitive edge. It also refers to the availability of sufficient slack of an organization. Each category of factors has several elements as recounted below.

3.1 Organizational Climate (OCL)

This factor involves thee well-known elements, they are risk orientation (RO), external orientation (EO) and achievement orientation (AO). These three elements are influencing the innovativeness of organizations. The organizational climate is closely allied with culture and is reflected by the practices of peoples, procedures and rewards systems. Two dimensions of climate influence the innovation process of organizations. They are communication and freedom to express opinions.

3.2 Organizational Characteristics (OCH)

Organizational characteristics, in terms of formalization (FO), centralization (CE) and specialization (SP) moderate the relationship between characteristics and innovativeness. Formalization refers to the degree of using written job description for all classes of employees in an organization. It also refers to the degree of

using written policies and procedures to guide the actions of employees.

3.3 Organizational Context (OCO)

The organizational context consists of organizational slack (OS) and learning abilities (LA). Considerable study exists on innovativeness points out that learning abilities are the key factor of organizations Organizational learning enables an organization to sustain its competitive advantages in the market segments and it is a critical factor in acquiring new technologies. Organizational slack is a key contributor to innovativeness of an organization.

4. Data Analysis

Table 1: Response of the bank employees with respect to satisfaction working in fully computerized set up

Sl No	Response of bank employee	Number of bank employees				Percentage
		18-30	31-45	Above 45	Total	
1	Yes	24	48	20	92	61%
2	No	2	10	19	31	21%
3	Can't Say	4	12	11	27	18%
Total		30	70	50	150	100%

Source: field work

From table 1 It has been observed that maximum number of 92 bank employee that is 61% of the total sample are satisfied with the fully computerized set up includes the 24 employees with age of 18-30 and there total sample size is 30 out of 150 respondents which shows good satisfaction level of employees for computerization i.e 80% of the age group between 18-30 years, another category of age between 31-45 there satisfaction level is also near to the satisfactory which is 68.57% of the same age group but satisfaction level age group above 45 is something negative which is only 20 employees out of 50 employees and 40% of the same age group and 31 bank employees are not satisfied with the fully computerized set up in state bank of India. 27 employees unable to say anything with the satisfaction of their working after fully computerized set up.

Table 2: Response about training programme before/ after the computerization of banks.

Sl. no.	Particular	Number of bank employees According to their age				%
		18-30	31-45	Above 45	Total	
1	YES	24	48	28	100	67%
2	NO	6	22	22	50	33%
Total		30	70	50	150	100%

Source: field work

From table 2, It has been observed that maximum number of 100 bank employee that is 67% of the total sample are satisfied with the training programme before and after computerization includes the 24 employees with age of 18-30 and there total sample size is 30 out of 150 respondents which shows good satisfaction level of employees for computerization i.e. 80% of the age group between 18-30 years, another category of age between 31-45 there satisfaction level is also near to the satisfactory which is 68.57% of the same age group but satisfaction level age group above 45 is not satisfactory which is only 28 employess out of 50 employees and 56% of the same age group and 50 bank employees are not satisfied with the training programme before and after computerization in state bank of India includes 6 employees between age group of 18-30, 22 employees between age group of 30-45 and 22 employees more than 45 age group

Table 3: Response for clarity of role/responsibility/ instructions/guidelines for different functionaries at the computerized branches.

Sl. no.	Particulars	Number of bank employees According to their age				%
		18-30	31-45	Above 45	Total	
1	Adequate	19	50	28	97	65%
2	inadequate	5	10	15	30	20%
3	just sufficient	6	10	7	23	15%
Total		30	70	50	150	100%

Source: field work

From table 3, It has been observed that maximum number of 97 respondents have clarity of role/responsibility/instructions/guidelines for different functionaries at the computerized branches which is 65% of the total response 30 respondents have inadequate about clarity of role/responsibility/instructions/guidelines for different functionaries at the computerized branches which is 20% of the total response and 23 respondents have just sufficient for clarity of role/responsibility/instructions/guidelines for different functionaries at the computerized branches which is 15% of the total response

5. Conclusion

Most of the banks are clearly defined technology related strategy and vision. They are also setting aside big budgets for technology. The potential benefits and opportunities of putting in place the new technological platforms are many, like improved customers experience, enhanced product delivery, product innovations, better cross selling of products, streamlining operations, reducing the transaction cost, better risk management controls. It has been observed from the data analysis that maximum number of

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92 bank employee that is 61% of the total sample are satisfied with the fully computerized set up includes the 24 employees with age of 18-30 and there total sample size is 30 out of 150 respondents which shows good satisfaction level of employees for computerization i.e., 80% of the age group between 18-30 years, another category of age between 31-45 there satisfaction level is also near to the satisfactory which is 68.57% of the same age group but satisfaction level age group above 45 is something negative which is only 20 employees out of 50 employees and 40% of the same age group and 31 bank employees are not satisfied with the fully computerized set up in state bank of India. 27 employees unable to say anything with the satisfaction of their working after fully computerized set up.

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Global Journal of Enterprise Information System

Factors Influencing the Mobile Phone Purchase – A Study on the College Students of Delhi NCR

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Abstract: The studies performed in the past reflected that the most frequent users of mobile phones are our college going students (MACRO – Market Analysis & Consumer Research Organisation, 2004; Sathish, Kumar, Naveen & Jeevanantham, 2011; Singla & Bansal, 2011; Ahmed & Qazi, 2011; Chakraborty, 2006; Aoki & Downes, 2003) the studies identified that they are the most dynamic users of the mobile devices. Thus, in the proposed work the college going students are identified as the potential respondents for the Questionnaire analysis. The performed study involves the ICT (Information Communication & Technology) based version of Questionnaire analysis, where simple random sampling is used. The study plans to identify the factors affecting the purchase pattern of the said respondents, based on their responses it is identified that 46% of the population prefer to change the mobile handset in 1 to 2 years, none the less 44% prefers for change in 2 to 3 years. Further, the Analysis of the collected data disclosed that 38% of the respondents are preferring the mobile handsets with price band of "5001 to 10000" Rs. Whereas, the demand for the mobile handsets lying in the price band of "less than 5000" contributes to 30% of the received responses. The performed study also reveals that 62% of the respondents gives higher consideration for the mobile handsets with medium size and 52% for the mobile handsets which are light in weight. Finally, the analysis of the collected responses identified that the students belonging to the service sector families with income domain from 25000–100000 are more prone to mobile switching and purchase. Based on the performed study, it is identified that almost 50% of the population belongs to service class families and the same prefers to change their handset within 2 years, and they prefer light weight - medium size handsets in the price range lying under 10000Rs. The telephonic discussion with the respondents who gave consent for big size and medium weight phones, reveals that they are actually talking for calling tabs (option not available in Questionnaire), as this device serves their multiple purposes related to education and entertainment both. Thus, it is to be considered that the students are searching for calling tabs as their next choice which should lie in the range of 10000Rs or so. Thus, the performed study recommends that the mobile sector should consider the studied factors like price range, physical attributes, employment sector etc. before designing the strategies for mobile handsets.

Keywords: calling tabs, mobile phones, questionnaire analysis, Information and Communication Technology (ICT).

1. Introduction

Past Studies (MACRO–Market Analysis & Consumer Research Organisation, 2004; Sathish, Kumar, Naveen, & Jeevanantham, 2011) revealed that the mobile sector in India will have tremendous growth; it is forecasted to reach 868.47 million users by 2013. This growth pattern reflects enormous competition in the mobile sector, resulting the industries to come up with mobiles, having better features and low cost (Singla & Bansal, 2011). This competitive environment severely dominated the purchase pattern of the potential customers, which are identified in the study as the college going students (MACRO–Market Analysis & Consumer Research Organisation, 2004; Ahmed & Qazi, 2011; Chakraborty, 2006; Aoki & Downes, 2003). However, the analysis of the performed work could be refined by considering the larger sample size which may spread across other metropolitan cities.

In paper (Sharma, VenuGopal, Sharma, & Sharma, 2012) it is concluded that "*It is analyzed that the responses are contributed by the respondents who are reasonably qualified, 68% of the responses are from the students who are pursuing Post Graduation and 32% of the responses are from the students who are pursuing Graduation; and belongs to reasonably educated families. The statistics of the collected data discloses some interesting facts, like*

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the responses are almost equally contributed by both genders, to be specific 54% of the responses are from masculine gender where as 46% are from the feminine. Further, most of the respondents i.e. 55% belong to the age group of 22–24 years.

The Statistical analysis of the collected data reveals that most of the respondents i.e. 57%, prefers for the change of their existing mobile brand, and they belongs to the service class families. Among the service class families most of the respondents belongs to the families with monthly earning of 25000–50000, and 50000 to 100000. This outcome enlightens an interesting pattern, that most of the students who belong to the service class families, whose income band is from 25000 to 100000 are quite prone to mobile change. The findings enabled us to find the pattern in further depth, where we analyzed for finding the facts related to the relation between the family income/family profession and present mobile brand Planned budget for next mobile/ next preferred mobile brand etc."

The present paper, it is planned to identify the factors, considered while purchasing the subsequent mobile handset, by any user.

2. Research Methodology

The research methodology involved in the study, used ICT based Questionnaire as a research tool, where Simple random sampling technique is used. The responses are collected through the GoogleDocs services provided by Google, where the responses were expected from 300 (randomly selected) College going students, 92% of the target population responded i.e. 276 students responded back for this study. The received responses were analyzed by using the spreadsheet software (MS-Excel). To assure the reliability of the conducted study, we targeted the educated sector of the community. The conducted study involved, data collection related to the qualification of not only the students but also of their parents, further the factors like family income level, parents occupation etc. are also considered. The purpose behind, is to assure that, the respondent understands the value of the given responses.

3. Findings of the Study

Table 1 shows the demographical factors of this study. It is analyzed that the responses are contributed by the respondents who are reasonably qualified, 68% of the responses are from the students who are pursuing Post Graduation and 32% of the responses are from the students who are pursuing Graduation; and belongs to reasonably educated families. The statistics of the collected data discloses some interesting facts, like the responses are almost equally contributed by both genders, to be specific

Table 1: Demographical factors of respondents

Demographic factor	Response options	Percentage
Age	less than 18	3
	18–20	28
	20–22	55
	22–24	14
	more than 24	0
Gender	Male	54
	Female	46
Qualification	Graduate	32
	Post Graduate	68
Family occupation	Service	57
	Professional	9
	Business	26
	Others	9

54% of the responses are from masculine gender where as 46% are from the feminine. Further, most of the respondents i.e. 55% belongs to the age group of 22–24 years. The Statistical analysis of the collected data reveals that most of the respondents i.e. 57%, belongs to the service class families (Sharma, VenuGopal, Sharma, & Sharma, 2012).

Table 2 shows the frequency of changing the mobile phone; it is identified that approximately 90% of the population prefers to change their handsets within a span of three years. Further, out of this 90% the 45% contributes to change their handsets within 2 years. This information is quite interesting for the mobile industry, that the market is frequently expanding and they need to give due consideration to customer satisfaction. Otherwise the results may be drastic, as reflected for NOKIA in the paper (Sharma, VenuGopal, Sharma, & Sharma, 2012).

Table 3. Mobile shows the price band preferred by the students of Delhi-NCR colleges, while making a purchase for their mobile phone. The tabulated data may be used by the mobile sector companies to realize the purchasing capacity of this sector i.e. our students can afford mobile handsets lying in the range up to 10000Rs, 68% of the population lies in the favor of this price band.

Table 4. Identifies that medium sized-light weight mobile phones are most preferred, however big size phones with medium weight are lying second in to the category. The telephonic discussion with the respondents, who gave consent for big size and medium weight phones, reveals that they are actually talking for calling tabs, as this device serves their multiple purposes related to education and entertainment both. Thus, it is to be considered that the students are searching for calling tabs as their next choice which should lie in the range of 10000 Rs or so.

Table 2: Frequency of changing the mobile phone

Frequency of mobile phone change	Percent
Less than 1 Year	7
1–2 Years	45
2–3 Years	44
Above 3 Years	4

Table 3: Preferred price range for the purchase of next mobile phone

Preffered price range for purchase of next mobile phone purchase	Percent
Less than 5,000	30
5001–10,000	38
10001–15000	25
Above 15,000	7

Table 4: Preferred physical attributes for the purchase of next mobile phone

Prefered phone size/weight	Percent
Phone size – small	5
Phone size – medium	62
Phone size – big	32
Phone weight – light	52
Phone weight – medium	48
Phone weight – heavy	0

4. Conclusion

Based on their responses it is identified that 46% of the population prefer to change the mobile handset in 1 to 2 years, none the less 44% prefers for change in 2 to 3 years. Further, the Analysis of the collected data disclosed that 38% of the respondents are preferring the mobile handsets with price band of "5001 to 10000" Rs. Whereas, the demand for the mobile handsets lying in the price band of "less than 5000" contributes to 30% of the received responses. The performed study also reveals that 62% of the respondents give higher consideration for the mobile handsets with medium size and 52% for the mobile handsets which are light in weight. Finally, the analysis of the collected responses identified that the students belonging to the service sector families with income domain from 25000–100000 are more prone to mobile switching and purchase. Based on the performed study, it is identified that almost 50% of the population belongs to service class families and the same prefers to change their handset within 2 years, and they prefer light weight-medium size handsets in the price range lying under 10000Rs. The telephonic discussion with the respondents who gave consent for big size and medium weight phones, reveals that they are actually talking for calling tabs(option not available in Questionnaire), as this device serves their multiple purposes related to education and entertainment both. Thus, it is to be considered that the students are searching for calling tabs as their next choice which should lie in the range of 10000Rs or so. Thus, the performed study recommends that the mobile sector should consider the studied factors like price range, physical attributes, employment sector etc. before designing the strategies for mobile handsets.

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Software Reliability Metrics

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Abstract

Software Reliability is the probability of failure-free software operation for a specified period of time in a specified environment. Software Reliability is also an important factor affecting system reliability. It differs from hardware reliability in that it reflects the design perfection, rather than manufacturing perfection. The high complexity of software is the major contributing factor of Software Reliability problems. Software Reliability is not a function of time, although researchers have come up with models relating the two. The modeling technique for Software Reliability is reaching its prosperity, but before using the technique, we must carefully select the appropriate model that can best suit our case. Measurement in software is still in its infancy. No good quantitative methods have been developed to represent Software Reliability without excessive limitations. Various approaches can be used to improve the reliability of software, however, it is hard to balance development time and budget with software reliability.

Keywords: software components, component based software engineering, component-based development, Interaction Constraints (ICs)

1. Definitions

According to American National Standard Institute, (ANSI) Software Reliability is defined as: the probability of failure-free software operation for a specified period of time in a specified environment. Although Software Reliability is defined as a probabilistic function, and comes with the notion of time, we must note that, different from traditional Hardware Reliability, Software Reliability is not a direct function of time. Electronic and mechanical parts may become "old" and wear out with time and usage, but software will not rust or wear-out during its life cycle. Software will not change over time unless intentionally changed or upgraded.

Software Reliability is an important to attribute of software quality, together with functionality, usability, performance, serviceability, capability, installability, maintainability, and documentation (Wu, Zhong & Zhu, 2010). Software Reliability is hard to achieve, because the complexity of software tends to be high. While any system with a high degree of complexity, including software, will be hard to reach a certain level of reliability, system developers tend to push complexity into the software layer, with the rapid growth of system size and ease of doing so by upgrading the software. For example, large next-generation aircraft will have over one million source lines of software on-board; next-generation air traffic control systems will contain between one and two million lines; the upcoming international space station will have over two million lines on-board and over ten million lines of ground support software; several major life-critical defense systems will have over five million source lines of software. While the complexity of software is inversely related to software reliability, it is directly related to other important factors in software quality, especially functionality, capability, etc. Emphasizing these features will tend to add more complexity to software.

"Using these definitions, software reliability is comprised of three activities:

1. Error prevention
2. Fault detection and removal
3. Measurements to maximize reliability, specifically measures that support the first two activities

There has been extensive work in measuring reliability using mean time between failure and mean time to failure. These activities address the first and third aspects of reliability, identifying and removing faults so that the software works as expected with the specified reliability.

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2. Software Life Cycle for Reliability

Software reliability, however, does not show the same characteristics similar as hardware. A possible curve is shown in figure 2 if we projected software reliability on the same axes. There are two major differences between hardware and software curves. One difference is that in the last phase, software does not have an increasing failure rate as hardware does. In this phase, software is approaching obsolescence; there are no motivations for any upgrades or changes to the software. Therefore, the failure rate will not change. The second difference is that in the useful-life phase, software will experience a drastic increase in failure rate each time an upgrade is made (Alipour & Isazadeh, 2008). The failure rate levels off gradually, partly because of the defects found and fixed after the upgrades.

The upgrades in figure 2 imply feature upgrades, not upgrades for reliability. For feature upgrades, the complexity of software is likely to be increased, since the functionality of software is enhanced. Even bug fixes may be a reason for more software failures, if the bug fix induces other defects into software. For reliability upgrades, it is possible to incur a drop in software failure rate, if the goal of the upgrade is enhancing software reliability, such as a redesign or reimplementation of some modules using better engineering approaches, such as clean-room method.

Focus also must be on the maintainability of the software since; there will be a "useful life" phase where sustaining engineering will be needed. Therefore, to prevent software errors, we must:

- Start with the requirements, ensuring the product developed is the one specified, that all requirements clearly and accurately specify the final product functionality
- Ensure the code can easily support sustaining engineering without infusing additional errors
- A comprehensive test program that verifies all functionality stated in the requirements is included

3. Software Reliability Models and Measurement

As a major task of fault/failure forecasting, software reliability modeling has attracted much research attention in estimation (measuring the current state) as well as prediction (assessing the future state) of the reliability of a software system. A software reliability model specifies the form of a random process that describes the behavior of software failures with respect to time. There are three main reliability modeling approaches: the error seeding and tagging approach, the data domain approach, and the time domain approach, which is considered to be the most popular one (Kumar & Misra, 2008). The basic principle of time domain software reliability modeling is to perform curve fitting of observed time-based failure data by a pre-specified model formula, such that the model can be parameterized with statistical techniques (such as the Least Square or Maximum Likelihood methods). The model can then provide estimation of existing reliability or prediction of future reliability by extrapolation techniques. Software reliability models usually make a number of common assumptions, as follows:

1. The operation environment where the reliability is to be measured is the same as the testing environment in which the reliability model has been parameterized.
2. Once a failure occurs, the fault which causes the failure is immediately removed.
3. The fault removal process will not introduce new faults.
4. The number of faults inherent in the software and the way these faults manifest themselves to cause failures follow, at least in a statistical sense, certain mathematical formulae.

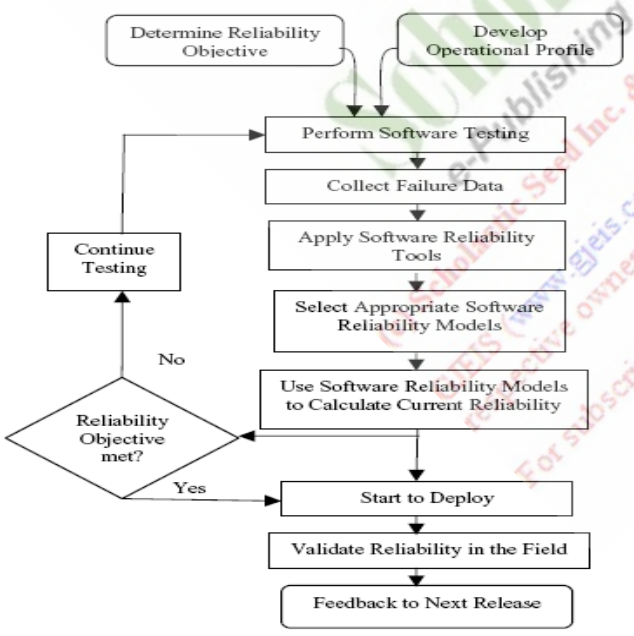

Figure 1: Software reliability engineering process overview

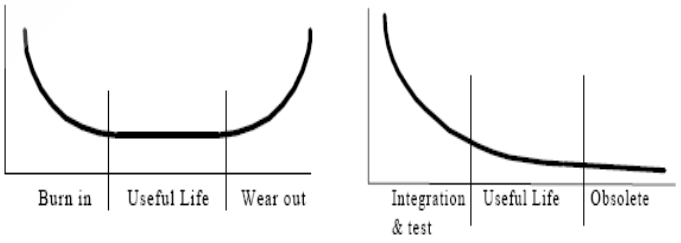

Figure 2: Failure rate

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Since the number of faults (as well as the failure rate) of the software system reduces when the testing progresses, resulting in growth of reliability, these models are often called Software Reliability Growth Models (SRGMs).

It can be seen from figure 1 that there are four major components in this SRE process, namely

1. Reliability objective,
2. Operational profile,
3. Reliability modeling and measurement, and
4. Reliability validation.

A reliability objective is the specification of the reliability goal of a product from the customer viewpoint. If a reliability objective has been specified by the customer, that reliability objective should be used. Otherwise, we can select the reliability measure which is the most intuitive and easily understood, and then determine the customer's "tolerance threshold" for system failures in terms of this reliability measure (Alvaro, de Almeida, & de Lemos Meira, 2005). The operational profile is a set of disjoint alternatives of system operational scenarios and their associated probabilities of occurrence.

The construction of an operational profile encourages testers to select test cases according to the system's likely operational usage, which contributes to more accurate estimation of software reliability in the field. Reliability modeling is an essential element of the reliability estimation process. It determines whether a product meets its reliability objective and is ready for release. One or more reliability models are employed to calculate, from failure data collected during system testing, various estimates of a product's reliability as a function of test time. Several interdependent estimates can be obtained to make equivalent statements about a product's reliability. These reliability estimates can provide the following information, which is useful for product quality management: (1) The reliability of the product at the end of system testing. (2) The amount of (additional) test time required to reach the product's reliability objective. (3) The reliability growth as a result of testing (e.g., the ratio of the value of the failure intensity at the start of testing to the value at the end of testing). (4) The predicted reliability beyond the system testing, such as the product's reliability in the field. Despite the existence of a large number of models, the problem of model selection and application is manageable, as there are guidelines and statistical methods for selecting an appropriate model for each application. Furthermore, experience has shown that it is sufficient to consider only a dozen models, particularly when they are already implemented in software tools.

Using these statistical methods, "best" estimates of reliability are obtained during testing (Alvaro, de Almeida, & de Lemos Meira, 2005). These estimates are then used to project the reliability during field operation in order to determine whether the reliability objective has been met. This procedure is an iterative process, since more testing will be needed if the objective is not met.

A test compression factor is defined as the ratio of execution time required in the operational phase to execution time required in the test phase to cover the input space of the program. Since testers during testing are quickly searching through the input space for both normal and difficult execution conditions, while users during operation only execute the software with a regular pace, this factor represents the reduction of failure rate (or increase in reliability) during operation with respect to that observed during testing.

Finally, the projected field reliability has to be validated by comparing it with the observed field reliability.

This validation not only establishes benchmarks and confidence levels of the reliability estimates, but also provides feedback to the SRE process for continuous improvement and better parameter tuning (Crnkovic, Larsson, & Chaudron, 2004). When feedback is provided, SRE process enhancement comes naturally: the model validity is established, the growth of reliability is determined, and the test compression factor is refined.

4. Software Reliability Prediction Models and Estimation

A proliferation of software reliability models have emerged as people try to understand the characteristics of how and why software fails, and try to quantify software reliability. As many models as there are and many more emerging, none of the models can capture a satisfying amount of the complexity of software; constraints and assumptions have to be made for the quantifying process.

Therefore, there is no single model that can be used in all situations. No model is complete or even representative. One model may work well for a set of certain software, but may be completely off track for other kinds of problems. Most software models contain the following parts: assumptions, factors, and a mathematical function that relates the reliability with the factors (Aggarwal & Singh, 2005). The mathematical function is usually higher order exponential or logarithmic.

Software modeling techniques can be divided into two subcategories: prediction modeling and estimation modeling. Both kinds of modeling techniques are based on observing and accumulating failure data and analyzing with statistical inference. The major differences of the two models are shown in table 1.

Table 1: Difference between Software Reliability Prediction Models Estimation Models

Issues	Prediction models	Estimation models
Data reference	Uses historical data	Uses data from the current software development effort
When used in development cycle	Usually made prior to development or test phases; can be used as early as concept phase	Usually made later in life cycle(after some data have been collected); not typically used in concept or development phases
Time frame	Predict reliability at some future time	Estimate reliability at either present or some future time

Representative prediction models include Musa's Execution Time Model, Putnam's Model and Rome Laboratory models TR-92-51 and TR-92-15, etc. Using prediction models, software reliability can be predicted early in the development phase and enhancements can be initiated to improve the reliability (Rodrigues, Roshenblum, & Sebastian, 2005). Representative estimation models include exponential distribution models, Weibull distribution model, Thompson and Chelson's model, etc. Exponential models and Weibull distribution model are usually named as classical fault count/fault rate estimation models, while Thompson and Chelson's model belong to Bayesian fault rate estimation models.

The field has matured to the point that software models can be applied in practical situations and give meaningful results and, second, that there is no one model that is best in all situations. Because of the complexity of software, any model has to have extra assumptions. Only limited factors can be put into consideration. Most software reliability models ignore the software development process and focus on the results—the observed faults and/or failures. By doing so, complexity is reduced and abstraction is achieved, however, the models tend to specialize to be applied to only a portion of the situations and a certain class of the problems. We have to carefully choose the right model that suits our specific case. Furthermore, the modeling results can not be blindly believed and applied.

5. Conclusion

Software reliability is a key part in software quality. The study of software reliability can be categorized into three parts: modeling, measurement and improvement. Software reliability modeling has matured to the point that meaningful results can be obtained by applying suitable models to the problem. There are many models exist, but no single model can capture a necessary amount of the software characteristics. Assumptions and abstractions must be made to simplify the problem. There is no single model that is universal to all the situations.

Metrics to measure software reliability do exist and can be used starting in the requirements phase. At each phase of the development life cycle, metrics can identify potential areas of problems that may lead to problems or errors. Finding these areas in the phase they are developed decreases the cost and prevents potential ripple effects from the changes, later in the development life cycle.

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Information System Security and Risk Management: Issues and Impact on Organizations

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Abstract

Information Technology (IT) based information systems have become the backbone of not only success but of survival of organizations in this highly competitive world. Considering that IT is an important asset it must be managed efficiently to minimize the risks associated with it and the systems it supports. The paper is based on literature review of existing work on information security and risk management. It attempts to describe the theoretical perspective of information system security. It also discusses and analyses the various information security methodologies in practice.

Keyword: information security implementation, IT risk, information security methodologies

1. Introduction

Information Systems (IS) are set of interrelated components that retrieve, process, store and distribute information to support decision making and control in organizations. IS basically consists of data hardware, software, procedures and people which are usually developed to support business function (Godbole, 2009). In the present scenario information systems have become an essential aspect and an integral part of any business have graduated from being just a tool and information provider to facilitator in effective decision making to help in improving efficiency. Growing dependence of most organizations on their information systems has provided problems such as theft of data, attacks using malicious code, denial of service etc. New opportunities for IT related issues coupled with risks have made IT Governance an increasingly critical facet of overall governance. Information security is not just a technology problem, it is a business issue, it was seen as a negative factor creating value through nonoccurrence. Organizations that make extensive use of information technology can be more efficient and productive. However, this ever-growing dependence on IT also leads to a dramatic increase in expensive information security incidents and failures (BSI, 2004).

As organizations become increasingly dependent on information systems (IS) for strategic advantage and operations, the issue of IS security also becomes increasingly important (Kankanhalli, Teo, Tan, & Wei, 2003). The information must be protected from harm caused due to threats leading to loss, non-availability, alteration and wrongful disclosure. Threats include errors and omissions, fraud, accidents and intentional changes (Saleh, Alfantookh, 2011). The main goal of information security is to protect the interest of stakeholders by ensuring confidentiality (disclosure of information to the righteous persons), availability (information systems are available and usable) and integrity (information is protected against unauthorized changes). Thus, Information Security is a key aspect of information technology governance.

Information security industry in itself encompasses diverse set of products, services, processes and policies ranging from encryption algorithm to human resource management. The success of information security implementation can be determined through technological, operational and managerial controls. The lack of a fully inclusive guideline document to assist the functioning of sufficient Information Security Governance is common in the business environment.

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2. Impact of IT Implementation on Organizations

There has been an exponential growth in IT in years which can be exploited by corporation to meet the challenges of rapidly changing economy (Morton, 1991). The relationship between IT and business in recent years has changed from strategic level to supporting operational processes in business (eg. Workflow systems, document management, case management, etc) (Radianti & Gonzalez, 2007). 'Modern societies, organizations & business depend on reliable information system (Hallberg, Hallberg & Hunstad, 2007).

One can not deny the role of IT in success of a business. In fact, IT services have proven to be directly affecting business process performance & organization success (Hosseini, 2005).

As per the companies, IT services have resulted in companies performance enhancement in terms of higher return on sales and even the market share is directly impacted by efficient use of IT (Kempis, & Ringback, 1999) and researchers indicated this linkage of IT to enterprise very strongly. Studies suggest that this linkage can significantly affect the efficiency of the business and hence give it a competitive edge above others (Hosseini, 2005). It majorly improves customer service; integrate supplier and customer operations (Luftman, Lewis, & Oldach, 1993). In a way financial and non-financial, both business functions are impacted by adoption, implementation and expansion of an information system in organizations (Chatzoglou, & Diamantidis, 2009). Researchers even advocated the positive impact of investments in IT on firms' production process (Shao, & tin, 2001). Some are of the view that though IT impact performance, but the improvement in productivity is not as per expectation (Ko, & Bryson, 2002).

3. IT Implementation: Not a Risk Free Affair

Though several researchers have advocated the positive role of It in improving organization's performance and providing a competitive edge to it (Morton,1991; Radianti & Gonzalez, 2007; Hosseini, 2005; Kempis, & Ringback, 1999; Luftman, Lewis, & Oldach, 1993), the dependence of organizations on IT has made them vulnerable to issues like IT frauds, diverse set of security risks ranging from virus attacks to intentional or unintentional damage to the organization by employees resulting in failures of critical processes, due to problems in infrastructures like servers, data centers (Luftman, Lewis, & Oldach, 1993; Hosseini, 2005). 75% of organizations have confirmed being attacked (Bagchi, & Udo, 2003). Studies have revealed six categories of IT security issues have emerged which are as follows:

- System development
- System operation
- Risk management
- Communication and management of security
- Competence regarding security
- Attainment and preservation of trust (Hosseini, 2005).

Financial and non financial business functions are impacted by IT implementation risks (Chatzoglou, & Diamantidis, 2009). Use of IT encapsulates both systematic and unsystematic risks (Hallikainen, Kivjarvi, & Nurmimaki, 2002). Some studies have revealed that IT risk levels can not be fully eliminated or even lowered by advances in IT (Chatzoglou, & Diamantidis, 2009). As per Netherlands National Bank manual, IT risk is the predictable or possible risk that comes up because of the insufficient processing of existing information system (Chatzoglou, & Diamantidis, 2009). The manual also suggests a descriptive definition of IT risk in terms of following indicators

- Exclusivity - level of inappropriate authorization and unauthorized access
- Integrity -volume of incorrect and irregularly used and processed data
- Controllability-loosely controlled IS procedures
- User operations-inadequate IT support lack of skill and experience applied to IS
- Continuity-non availability of high level data and high volumes of system failures and disruptions
- Manageability-low degree of IS flexibility and maintainability leading to risks (De Nederlandsche Bank, 2001).

This categorization is supported by many researchers (National Institute of Standards and Technology, 2002; O'Donnell, 2005). As per the study 8 types of IT risks impact the performance of an organization which are:

- Operator error-by computer operator
- Hardware malfunctions-errors due to faulty hardware design
- Software errors or bugs-flaw in programs
- Data errors-invalid data
- User's carelessness-leading to accidental disclosure of information
- Protection error-inadequate protection against failure of system components leading to damage to physical infrastructure
- Performance error-failing to meeting the desired expectation
- Liability-system's level of responsibility (Steven, 2002)

Several authors have suggested IT implementation risk to be divided into 5 broad categories

- Application complexity-refers to number of links to other systems
- Application size-refers to number of users needed in development of IS and usage
- Organizational environment-refers to association between users and creators
- Team expertise
- Technology novelty (Hallikainen, Kivjarvi, & Nurmimaki, 2002)

As per the researchers, coordination and partially information ability are the most impacted non-financial factors and IT risk levels can not be fully eliminated or even lowered by just implementing or improving IT (Chatzoglou, & Diamantidis, 2009).

4. Risk Management: Basic Principle of Risk Analysis - Companies Can Estimate Possible Damages if a Threat Event Were to Arise (Godbole, 2008)

There has been tremendous study on handling the information security issue in IT based organizations. Different traditional information security methods have been developed with time. Some researchers have categorized infosec methods into 3 (Baskerville, 1988) generations and some into 5 (Baskerville, 1993) RM among the most commonly used early generation (first or second) infosec method (Siponen, 2005) called traditional method. They are widely used in practice (Baskerville, 1992; Fitzgerald, 1995; Solms, 1996; von Solms, & van de Haar, 2001) these are as follows:

- Checklist-AFIPD, SAFE, Moultan-Moultan, Wood et al
- ISS Standards-BS ISO/IEC17999 , GASSP, Sanders et al
- ISS Maturity Criteria-SSE-CMM, Software Security metrics, The Information Security Maturity Grid
- Risk Management- The generic RM approach, Hallidat et al. X-ifying RM, LRAM, communication approach
- Formal methods-Anderson, Barnes (Siponen, 2005)

Most of these methods are not integrated into ISD which results in conflict between normal functionality of Information Systems and Security functionality. These problems range from increased costs, user resistance in implementing the system to malfunctioning of the system which leads to various types of losses.

Of all methods stated above the most common methods are the Infosec management standards which are widely used and advocated. But these standards have limitations that the focus of these standards is on existence of processes rather than its content and effectiveness (Siponen, 2006). The underlying principle of these standards is mere existence of security activities not the extant or quality of their existence and hence they are just guidelines without advising how desired results are to be achieved just the use of a particular security process or activity does not ensure the security of the organization as per the objective. It is the content and quality that really matters (Siponen, 2006).

Studies show that Risk Management is the only traditional method which is useful in practice and the key to success of information security system is the alignment of RM to organizations' business strategies. (Siponen, 2005). Risk analysis is the science of observation, knowledge and evaluation-that is, keen eyesight, anticipation, etc. Risk management is the keystone to an effective performance as well as for targeted, proactive solutions to potential threats and incidents [an incidents is any event that is not a part of the standard operation of a service and that causes, or may cause, an interruption to, or a reduction in, the quality of that service]. Risk management is the ongoing process of identifying risks and implementing plans to address them. Risk evaluation is a process that generates an organization-wide view of information security risks. Risk management is the skill of handling the identified risk in the best possible manner for the interests of the organization.

Asset, threat and vulnerability combined are called triple in risk management domain where asset is defined as a resource, process, product, computing infrastructure etc. that an organization considers important to be protected, threat is the presence of any potential event initiated by humans or natural that could cause an adverse impact on the organization and vulnerability is the absence or weakness of safeguard.
Risk is described by the following mathematical formula.

Risk=threat* vulnerability* asset value.

Some researchers advocate the definition of risk to be changed from 'the chance of something happening that will have an impact on objectives' to 'the effect of uncertainty on objectives' (AS/NZS, 2009)

AS/NZS ISO 31000:2009 risk management-principles and guidelines has earmarked 11 principles for risk management and 5 attributes to enhance risk management (AS/NZS, 2009) Which are as follows:

- Good risk management contributes to the achievement of an agency's objectives through the continuous review of its processes and systems.
- Risk management needs to be integrated with an agency's governance framework and become a part of its planning processes, at both the operational and strategic level.
- The process of risk management assists decision makers to make informed choices, identify priorities and select the most appropriate action.
- By identifying potential risks, agencies can implement controls and treatments to maximize the chance of gain while minimizing the chance of loss.
- The process of risk management should be consistent across an agency to ensure efficiency, consistency and the reliability of results.
- To effectively manage risk it is important to understand and consider all available information relevant to an activity and to be aware that there may be limitations on that information. It is then important to understand how all this information informs the risk management process.
- An agency's risk management framework needs to include its risk profile, as well as take into consideration its internal and external operating environment.
- Risk management needs to recognize the contribution that people and culture have on achieving an agency's objectives.
- Engaging stakeholders, both internal and external,
- Throughout the risk management process recognizes that communication and consultation is key to identifying, analyzing and monitoring risk.
- The process of managing risk needs to be flexible. The challenging environment we operate in requires agencies to consider the context for managing risk as well as continuing to identify new risks that emerge, and make allowances for those risks that no longer exist.

Agencies with a mature risk management culture are those that have invested resources over time and are able to demonstrate the continual achievement of their objectives. (AS/NZS, 2009)

Five Attributes to enhance risk management range from organizations accepting the accountability for their risks to develop comprehensive controls and treatment strategies to continuous improvement in risk management through setting and review of performance goals, systems, resources and capability/ skills to ensure continuous improvement, to making individuals accountable for risk management, to inclusion of risk management considerations in decision making and last but not least frequent reporting of the entire risk scenario to all stakeholders (AS/NZS, 2009).

5. Approaches and Considerations in Information Security Risk Analysis

There are various approaches for analyzing risk which are as follows

- Quantitative risk analysis,
- Qualitative risk analysis,
- Valuation of IT/ information system assets,
- Selection of safeguards (Godbole, 2008)

Quantitative risk analysis deals with assigning independently the objective numeric values in monetary terms to the components of the risk assessment and to the assessment of potential losses. Qualitative risk analysis addresses intangible values, of a data/ information loss and its focus is on other issues, rather than on the pure hard costs.

Risk analysis process is considered fully quantitative when all the elements of the risk analysis (asset value, impact, threat frequency, effectiveness, costs of safeguards/countermeasures, etc.) are measured, rated and values are assigned to them.

Qualitative risk analysis process involves the following steps:

Qualitative risk assessment is based on assessing and ranking the seriousness of threats and the relative sensitivity of the assets, or a qualitative grading is provided to them, by using a scenario approach and creating an exposure rating scale for each scenario (Godbole, 2008).

6. Conclusion

It has been identified that information system security includes many concepts, facts and techniques. Various researchers and practitioners have defined and formulated the information security and IT risk policies in different ways to accomplish the objectives of securing the information assets in various kinds of organizations. There are a number of methods for information security but risk management should be given the highest priority due to its integration with Information System development. There is a need to address the way risk-based decision making

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is applied in places that it may not improve the outcomes of the problems being addressed.

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IT and CSR Activities A New Milestone (Case studies)

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Abstract

A small village, Raghurajpur in Puri in Orissa, has occupied a prominent space in the world map because of the social responsiveness and intervention of an American lady, Mrs Halina Zealey. The village has acquired the status of "Heritage village". Chitrakaras (community of artists) have been infused with new life and India has been bestowed with honor and glory. CSR can bring phenomenal changes in the society.

In this paper, the efforts of UNGC and the impact of CSR activities by some IT companies like TCS, Infosys and Tech Mahindra towards inclusive development and millennium development goals are highlighted in the backdrop of a heritage village.

If the companies build up congenial relationship with the local communities and work in their interest then tragedies like Tata Nano plant would be averted and the proverbial golden siren would sing the merry tune of prosperity and positivity of India Globally.

Keywords: heritage village, women empowerment, sustainability, hygiene

Preamble: Abraham Lincoln said, "… government cannot endure half slave and half free…" Similarly a country cannot be considered developed or economically stable if there is a disparity between rich and poor. India is reflecting the same disparity. There are a number of people who can afford imported cars like Mercedes, Audi and on the other hand there are people who do not have one time proper meal. Some of the companies have come up to help reduce this disparity.

Now a day, Corporate Social Responsibility (CSR) is a growing concern for organizations combining their desire to protect environment and invest in communities. Increasingly, corporate executives must find new ways to address the social, economic, and environmental effects of doing business, while balancing conflicting demands on their attention, time, and resources. This study aims at highlighting the efforts of UNGC and the impact of CSR activities by some IT companies like Infosys, TCS and Tech Mahindra towards inclusive development and millennium development goals. A special reference is made to Raghurajpur—a heritage village in Orissa to show how social sensibility can bring dynamic change in the lives of poor artisans in making them economically independent and famous. The village is important because the help provided by an American lady and government of India led to the revival of cultural stream of India.

Entrance of the Village

Painting on House wall

View of the Village

Case study- I

Raghurajpur, a small village in Puri district in Orissa has occupied the status of Heritage Cultural village. It is the strangest village in the world where everyone is an artist and every house an art studio. These artisans are called ***Chitrakaras.*** The artisans of this village have been involved in producing melodious poetry on pieces of treated cloth, dried palm leaf or paper. The village has a community of artisans, who produce different varieties of handicrafts items such as ***Patta Chitra,*** (paintings on treated cloth), ***Talapatra Chitra*** (palm leaf engravings), ***Ganjapa*** (paintings on Playing cards) stone carvings, papier mache toys and masks, wood carvings, wooden toys, cow dung toys and tusser paintings called ***Mattha Chitra***. Some of them are winners of National Awards and are involved with the ritual performed in the temple of Lord Jagannatha. At the dawn of the 20th century their fortunes had started falling down which made a number of Chitrakars to leave this art form and digress to other professions. Ileana Citaristi, an Italian researcher observed:

> *"By the late fifties only a few old men among the 90-odd chitrakara families of Raghurajpur were still painting, whereas all the youths had deserted the profession; it was only around the year 1953 that, with the intervention of an American lady, Mrs Halina Zealey, a new future opened up and the artists once again took out their brushes and colours."* (Raghurajpur, The Crafts Village, 2004)

Halina Zealy, a Polish-American lady and a member of the American Friends' Service Committee (AFSC), spent a year or so in Puri with a few of her associates before going to Barpali, where they were planning to undertake experiments in rural reconstruction. She noticed that patta painters are poor because marketing for their artifacts is a problem. She put in herculean efforts to find a market for their art. She had approached Bengal Home Industries Association and the Indian Institute of Art Industry. She had also investigated the possibility of showcasing in the B.N.R. Hotel and Raghunandan Library in Puri and had put up a temporary stand on the bada-danda. In March 1953, she sent a detailed report narrating her experience to the AFSC headquarters, and Philadelphia had immediately responded. She had also attempted to promote this art form by giving Mrs B.K. Nehru, the wife of the then Indian ambassador to US, few samples to take to New York with a view to promote sales there. The demand for their paintings increased so much that women also got involved in Patta and Mattha paintings. This led to ameliorating in living standards and building of confidence in female gender. Not only this, women who were treated as second fiddle to man got chance to see mythological dramas in the nautanki's performed in the villages because these dramas provided them subjects for paintings. Government and NGO's are also promoting female gender by organizing art and craft fare. In these fares women are given preference while booking the stalls. This also has helped women to come out of houses and experience independence. The women are in turn contributing to the building of strong household and equally strong nation.

Another major change that Globalization brought was that Chitrakars in their earlier paintings would have Indian deities but now according to the taste and preference of the buyers, the subjects in the paintings have changed.

Painting on House wall

Paintings at Raghurajpur.
www.flickr.com user Damien [Phototrend.fr]

The two side effects of globalization are the use of synthetic colors for painting patta chitra and mushrooming of a number of huge shops selling Patta Chitra, Matha Chitra's, toys and papier-mâché work. Villagers stand turn by turn to pull the crowd to their village to sell their art work directly.

According to me corporate houses should encourage the use of natural colors by providing suitable market so that the science of manufacturing natural colors does not die out. It is very important to develop it as a tourist destination by constructing proper roads and railway station.

The support and sustainable growth model that was provided to the local artisans is a constructive example of positivity in globalization which has given a local village a chance to stand up to the challenges of the globalization.

Yet, another art form these villagers are involved in is performing art Gotipua, the earlier form of Odissi dance. Guru Kelu Charan Mohapatra the famous Odissi dancer had his training here. A dance school has been started called as Gotipua Gurukul, called Maa Dasabhuja under the guidance of Maguni Charan Das. Chitrakars believe that unless a person is well versed with performing art, one cannot be a good artist. The trainees of this school present their performances in different cultural events, in India and abroad. Some NGO's are involved in taking these Odissi dancers to perform in other countries. The performers and their families get very less money as compared to the whopping money the NGO's bring to themselves. Dr Dinanth Pathy, recipient of the President of India Silver Plaque for Painting, Jawaharlal Nehru Fellowship for Research and Orissa Sahitya Academy Award for creative writing observed that:

> *"Odissi has come to symbolize Oriya cultural identity and is now danced by members of an international community which is multilingual, multi-religious and multicultural and is watched, appreciated and patronized by an equally impressive global audience.* (Nayak, 2011; The Telegraph Calcutta, 2013)

The role multinational companies can play is organizing cultural events in their chains abroad where a sort of cultural exchange can take place. The mutual exchange would benefit both countries and help artists grow. It is very easy for any company to give profit but the loop can be completed only when it is structured properly with support and sustainability.

The structured approach has made the village a living museum of art and culture. Indian National Trust for Art and Cultural Heritage INTACH has identified this village to revive the ancient wall paintings of Orissa.

The efforts of foreigners to reconstruct and assign the village a global presence, was an eye opener for Indians and thus on June 27, 2002, Shri Jagmohan, Hon'ble Union Minister of Tourism and Culture, declared that this village would be developed as a model for rural tourism in India. INTACH developed a Project Report for this village to see that basic tourist amenities such as road, drinking water, sanitation, interpretation centre and rest house are developed. It is a thing to be admired that this is the first village to be provided with rest houses for tourists. The day is not far with the support of UNICEF and other agencies Raghurajpur will come in the National Travel Circuit of the Government of India.

India is full of such famous art work popular all over the world. To echo in words of the famous poet Chaucer, "… here's god's plenty…." A few popular art work which is famous for its uniqueness and fineness are: Bidri work and stone bangles from Andhra, Banarasi sarees from Varanasi, Bandhani from Rajasthan, Batic and mirror work from Gujarat, Thanjavur paintings from Tamil Nadu, Sambhalpuri sarees from Orissa, Chikan work from Lucknow, Brass work from Moradabad, Glass bangles from Firozabad and wooden and bamboo decorative artifacts from tribal areas of Chhattisgarh. If these small artisans are given support and provided a global market they would become economically independent and lead to economic growth of India at large. So it is very important for corporate houses to identify the villages close to their working zone and adopt them to provide support and also provide help to market their produce. This strategy would help reduce the role of the non structured middleman, who takes the lion's share without putting much of labor.

These efforts would also provide instructive examples of the locals measuring up to the challenges of the global.

Case Study II

UNGC: (Foundation for Global Compact). The biggest global corporate sustainability initiative to social responsibility, sustainability and local community development is of United Nations Global Compact's Initiative. There are 10,000 signatories based in more than 140 countries, and Local Networks existing or

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emerging in over 100 countries. Indian head is the Chairman of ONGC Mr. Vasudeva. The contributions of Private sectors provide vital support to United Nations Global Compact projects, helping advance corporate change and innovation around environmental, social and governance issues. UN Secretary-General Ban Ki-moon defines it as:

> *"The Global Compact asks companies to embrace universal principles and to partner with the United Nations. It has grown to become a critical platform for the UN to engage effectively with enlightened global business."*

The UN Global Compact calls companies to follow the Ten Principles mentioned below

(1) Voluntarily align their operations and strategies with ten universally accepted principles in the areas of human rights, labour, environment and anti-corruption and (2) take actions in support of UN goals, including the Millennium Development Goals. By doing so, business can help ensure that markets advance in ways that benefit economies and societies everywhere. Endorsed by chief executives, the UN Global Compact is a leadership platform for the development, implementation, and disclosure of responsible corporate policies and practices. The initiative brings companies together with key stakeholder groups including: Government, civil society, labour, investors, educators and the United Nations.

The Ten Principles (UN Global compact)

The UN Global Compact asks companies to embrace ten principles:

Human Rights

- *Principle 1: Businesses should support and respect the protection of internationally proclaimed human rights; and*
- *Principle 2: make sure that they are not complicit in human rights abuses.*

Labour

- *Principle 3: Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;*
- *Principle 4: the elimination of all forms of forced and compulsory labour;*
- *Principle 5: the effective abolition of child labour; and*
- *Principle 6: the elimination of discrimination in respect of employment and occupation.*

Environment

- *Principle 7: Businesses should support a precautionary approach to environmental challenges;*
- *Principle 8: undertake initiatives to promote greater environmental responsibility;*
- *Principle 9: encourage the development and diffusion of environmentally friendly technologies.*

Anti-Corruption

- *Principle 10: Businesses should work against all forms of corruption, including extortion and bribery.*

Case Study III-Infosys

Once I was at Omkareshwar and saw a small boy rowing the boat. I asked, 'Why don't you go to school? He replied, 'What would I do? I'll not get any job without paying any money. At least by ferrying people to other end I am earning my livelihood.' His answer put me to shame in the way even poor people are being exploited by the government.

I brought up this issue in one of the CSR conferences and I do see the change. I feel proud about Infosys and TCS that they have completed the loop by training and then conducting a job drive.

Infosys, employees have been organizing and contributing to welfare programs, especially for underprivileged children. They support the activities of institutes and Non-Government Organizations (NGOs) dedicated to healthcare and education. Infoscions create awareness for skills development and community welfare (Infosys report. 2013). At Banglore Infosys local CSR team called Mitr organized games and distributed chocolates and stationery at Rakum School for the visually challenged. Similarly, in Chennai Infoscions partnered with Nethrodaya, an NGO that works with visually challenged children. The volunteers regularly conducted weekend reading sessions. In 2009, a South India inter-state sports festival with modified versions of cricket, volleyball and chess was organized by Infosys.

The Notebook distribution: The Infynite Smiles CSR team has been distributing books and stationery to underprivileged children across Karnataka since 2001. In 2009, the team touched more than 45,000 lives, including the tribal community.

Project genesis: This initiative of the Infosys Affirmative Action Program (IAAP) prepared students for a career in the Business Process Outsourcing industry. The project was launched in Orissa in 2007 along with the state government to enhance the skills of academicians. Till date, 515 professors have been trained to make learning more focused by combining traditional teaching methods with modern education.

Behavior and social skills development: At Chandigarh Prayaas, the local CSR team, organized a program where 60 children from the Panchkula slum showcased their creativity in group activities. The children were imparted training in social etiquette.

Medical camp and cleanliness drive: Prayaas has adopted Tanda village to drive social transformation in the region. The Infosys volunteers engaged residents in a cleanliness drive to prevent malaria. A free camp for eye and general medical checkup was organized. Medicines and spectacles prescribed by doctors at the camp were distributed free of cost. The team collected data on health and sanitation related issues to address them.

Educare: At Chennai Sneham, the local CSR team, managed a dedicated intranet portal to help employees support education of the children of their housekeeping and security staff. In 2009, 1,500 members contributed approximately Rs. 14,00,000 to support more than 370 students. Meritorious students were awarded for their performance. A special award was presented to a girl child with exceptional recitation skills.

Facilities for rural schools: Volunteers constructed a water tank to supply drinking water to 1,000 students of the Avanipoor Government Higher Secondary School. They have been donating notebooks to the Anoor School since 2005 they also distributed notebooks to the children of Infosys' support staff.

Language and computer education: In Hyderabad basic computer education was imparted to the security and housekeeping staff of the DC. The team also helped 10 guards improve their English language skills.

Summer camp: A month-long workshop was conducted in May 2009 at Karunya Mane, a child rehabilitation center. 30 children were taught art and craft, dance, Maths, English, environment awareness, traffic rules, health and fitness, and social etiquette. Quiz contests helped the children assess their general knowledge.

Blood donation: More than 80 Infoscions donated blood in a special camp conducted in collaboration with the Mysore Rotary and Chandrakala Hospital. In Pune as well 700 volunteers donated blood during a two-day camp in June 2009. Three blood banks - ISIS Blood Bank, KEM and Janakalyan-participated. Doctors highlighted the need for safe blood donation at the camp.

The following are the Infosys Partners for CSR activities: Akanksha Foundation, Amar Jyoti Charitable Trust, Aseema Charitable Trust, Association for People with Disability, Action for Rights of the Child, Bal Sahayog, Bombay Community Public Trust, Centre for Learning Resources, Deep Griha Society, Centre for Learning Resources, Deep Griha Society, Deepalaya, Dhwani,Disha, Door Step School, EnAble India, India Sponsorship Committee, Indian Institute of Education, Jan Madhyam, Jeevodaya, Joint Women's Programme, Maa Kalka Sewa Samiti, KB Hire School, Katha, Katalyst, Kagad Kachh Patra Kashtakari Panchayat, Muktangan, Maharogi Sewa Samiti, National Association for the Blind, Parikrma, SNEHA, SPR Jain Kanyashala and the list is ever increasing.

School for drop outs: Along with an NGO Kaliyuva Mane, an informal school for dropouts run by the Divya Deepa Trust conducts activities like painting competitions and games are organized.

Eye donation camp: More than 330 Infoscions pledged to donate their eyes in a special camp organized with the Ruby Hall Clinic and Eye Bank Association of India in Pune.

Play and Live (PAL): Organizes sports to boost the confidence of underprivileged children. It also teaches them various skills and helps them to change their outlook. They also donate sports equipment including carom and chess boards, and prizes such as watches, perfumes and chocolates.

Infosys on November 8, 2012, flashed in the headlines ***"Infosys BPO's 'Project Genesis' Achieves New Milestone, Trains Over 1,00,000 Students."*** They had in fact trained more than 1,00,000 students across India to enhance their level of employability in the ITeS industry.

Raghavendra K., Vice President and Head - Human Resources Development, Infosys BPO said, "We are proud to see such inspiring results from Project Genesis".

Case Study IV-TECH Mahindra

For Tech Mahindra, 'community work' is for improving the quality of life in the society in their neighborhood. It is not just an act of philanthropy directed towards doing something for the welfare of the needy. Tech Mahindra has built up strong ties with local communities and the society as a whole. Corporate social responsibility reflects both the strength of their brand and the values. Tech Mahindra has created a foundation dedicated to funding and helping various programs in the education of the underprivileged which will help in reducing socio-economic disparities. Tech Mahindra is committed to earmarking 1.5% of its Profit after Tax for CSR activities.

Focus Areas

- Education
- Women empowerment
- Computer donations

Tech Mahindra Foundation, along with the following partners works for the elimination of economic disparity.

Shikshak Samman Awards: The Tech Mahindra Foundation in collaboration with the Municipal Corporation of Delhi gives the SHIKSHAK SAMMAN AWARDS to honor outstanding teachers working in Municipal schools. The scheme is so devised as to provide an avenue for further professional development of

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the committed teachers, encourage innovations and disseminate best practices.

Case Study V-TCS

TCS is involved in a gamut of CSR activities ranging from women empowerment, Education (Science, Technology, Engineering, and Mathematics), and Health care facilities (Nutrition and Wellness) and expanding it to Planet (Environmental Citizenship) to encompass conservation of animals and plants in its locality. They acknowledge the challenges faced by communities locally so they serve local communities through programs and initiatives that reflect the issues that are most pressing. TCS believes in Ethical and social responsibility to be the core value of every TCS employee (NASSCOM).

TCS' Sustainability Initiatives rests on three Pillars (TCS Company)

1. **Sustainable Operations:** They aim to build "greener infrastructure."
2. **Corporate Social Responsibility:** The guiding principle of TCS' CSR program is "Impact through Empowerment." TCS has a diverse range of global CSR initiatives in the areas of education, health and environment: volunteering, funding and pro bono leveraging of their IT capabilities.

Women Empowerment: TCS helps women empowerment by giving them a chance in Tata group's 'Second initiative' to help women who return after break in career. Provides them training, sensitizes them to different culture so that they appreciate different culture through 'culture meter' through quizzes and online mails.

In Panvel women were taught screen printing to help them earn their livelihood.

TCS in 2010–11,

- Supported the victims of the 2010 Chilean earthquake
- Conducted IT educational programs for high school students in Cincinnati
- Raised support and awareness for diabetes prevention through a series of marathon sponsorships
- **Planet Responsibility**: TCS supports 270 plant species that belong to 160 genera and 70 families and nurtured 117 animal species represented by butterflies, amphibians, reptiles, birds and mammals around their office. The company has put in herculean effort to protect endangered tree species Adansonia digtata (Baobab Tree) from wood borer infestation at Yantra Park

TCS employees participated in Turtle Festival 2013 at Velas and released 1428 turtles in 5 coastal villages in Maharashtra a step to conserve turtle species.

Adult Literacy Program: TCS 'Adult Literacy Program to help the Indian government eradicate illiteracy, a major social concern affecting a one third of the Indian population comprising of old and young adults. It also conducted educational drive for Jail mates in Lucknow and Delhi including Tihar Jail. ALP is the first instance of the use of IT core competence for social causes. Program has been developed so far in Telgu, Hindi, Urdu, Odia and Marathi. TCS won the award in the 'Support and Improvement in Education' category. The award recognizes the contribution of companies through their endowment or contribution toward improving the level of education of their employees, their community and their nation.

With the traditional method of learning to read and write, an illiterate person would take between six months to two years with trained teachers to learn to read and write. In addition, India will also need about 1 million teachers to deliver the training.

To accelerate the rate of learning, the literacy program uses a TCS-designed computer-based functional literacy model, a teaching method that uses multimedia software to teach adults to read within 30–45 learning hours -- spread over 1 to 1.5 hours sessions, thrice a week, over a period of 10 to 12 weeks.

S. Ramadorai, Chief Executive Officer, TCS opines that; "Reading is the new civil right. No modern society can function without a literate population and no one can function well in a modern society without being literate, Literacy increases awareness and facilitates responsible action. Adult literacy empowers and will be key in moving the people and country forward. (Mohanty, 1984; TCS report, 2013; Citaristi, 2001; Telegraph-india organization, 2013)

The computer-based functional literacy method uses animated graphics patterns for visualization and audio appreciation. By combining graphic patterns of visualization, repetition of sound patterns and language structures and cognition of the meaning, a person is made to read. This CBFL method is implemented using computers and flash cards.

TCS works closely with governments both at the state and district level to develop and deploy CBFL packages in the local language, as a supplement to their programs. To support the use of the CBFL model, TCS also donates computers to the state governments.

Affirmative Action: TCS BPO employability program has been for 2 years. The training has been imparted to 22,236 underprivileged out of which a large number are SC and ST category.

"Udan": This program is in collaboration with **NSDC** – Government of India and special industry initiative to help Kashmiri Youth join the main stream of corporate India.

"Maitree": It caters to improve education, healthcare and environment in 5 villages across India.

Training of Trainer: TCS conducted TOT for tribal community at Rekhapally, Khammans in February, 2013. The main beneficiary is Gothikoya adivasis.

AIP (Academic Interface Program): ALP is now being organized through academic institutions which are associated to TCS through Academic Interface Program.

Health: TCS developed a web based solution for a comprehensive integrated hospital Management system along with IT infrastructure. It has been distributed to Tata Medical Centre (TMC) and Cancer institute at Chennai free of cost. In FY 13 TCS provided TMC with pro bono IT services valued at INR 4.2 crore. TCS has prepared prototype for a National Disease Registry system for Retina India Foundation.

TCS developed a system for monitoring trafficking for Justice and Care an international organization.

TCS prepared prototype for 'Operation Smile' an international NGO involved in the surgery of cleft lips, cleft palates and other facial deformities.

TCS deployed a donor management system for community Health initiative program for Impact India Foundation which focuses on reducing disabilities.

Global Initiative:

APAC: TCS launched a week long program called as ***'Go for IT'*** in Australia to encourage girls to take IT as career. TCS also started a library project in China and TCS SINDA IT lab is aimed at strengthening the lower income Indian.

In September 2012, more than 80 patients were operated upon free of cost with the help of TCS in Yantai China.

TCS Saudi with SAGIA (Saudi Arabian General Investment Authority) to work jointly in "Madina Competitiveness Program which focused on education.

North America: In FY 13, 219 CSR events were organized with 50009 employee volunteers. CSR champions raised USD 70,358 in funds and donations. TCS partners client Neilson for the first Global Impact day with 500 TCS employees volunteering for event across North America, Latin America, APAC and India.

Start!: TCS partnered with American Heart Association (AHA) for Start! Heart walks in 25 locations across USA. TCS partnered with American Red Cross for a national level campaign in support of Hurricane Sandy relief efforts, raising USD 30,016 in company matched funds. Latin America.

TCS Child won best company award in 2012 for delivering sustained support in CS activities. It was recognized by "Fundccion Regazo" for continuous support for 4 years lifting the social spirit and commitment by TCS. Currently, TCS provided support to the organization in the form of conducting training program for the staff as well as working on reintegration of the sheltered girls in society through partnership with UC DUOC. LATAM also continues to focus on its leaders program that promotes recycling and reduce use of energy to care the planet.

TCS won the "The Asian CSR award" which is presented by the Asian Institute of Management's Ramon V del Rosario, Sr. Centre for Corporate Responsibility.

Concluding Remarks

A number of birds and animals die during summer because of drought. There is a need for the companies to take up projects in consideration of protection of birds, wild animals and preservation of bio diversity. Another, area where companies should focus on is street dogs' health and care. Many street dogs are seen with scabies, malnutrition, tumors, cuts and cancer.

Sustainable growth and respect for local community is the right path to success and it also implies following business ethics in true spirit. Exploitation of one will lead to the failure of another, for example Mahegenco Plant ended up paying compensation to the locals. It also ruins a company's image and poses a threat for its survival. If the giant corporate houses build up congenial relationship with the local communities and work in their interest many more tragedies like the Tata Nano plant, and agitation against construction of dams on Brahmaputra would be averted.

The steps taken so far are only a few baby steps towards inclusive growth and millennium development. A time will soon come when the proverbial golden siren would sing the merry tune of prosperity and positivity of India in Global and Glocal scenario.

Acknowledgement

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Green Branding: New Cliché Magnetism

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Abstract

Green is beyond the color now. We can say that green is in. From green revolution to green marketing we are still defining the new vicinity of greenness in the management. Earlier only Red & Blue were used to be the corporate colors in the industries & we were living within these boundaries. However, now this scenario is being shifted from red and blue to green. With respect to the eco-friendly symbol green also represents positive values like growth, newness, freshness, fertility, healing, and safety. For green branding only logos of the companies are not diverting, moreover whole idea of branding is shifting which includes the mobile branding and electronic branding. Eco-labeling is also being done by the organization. In addition to the techno era a pinch of greener approach is developing the sustainability in the market.

Keywords: green branding, mobile branding, electronic branding and green marketing

1. Introduction

The process involved in creating a unique name, logo, sign, symbol and image for a product in the consumers' mind, mainly through advertising campaigns with a consistent theme. Branding aims to establish a significant and differentiated presence in the market that attracts and retains loyal customers.

Green Branding means the process of creating the unique image of the product in the greener way which will not have adverse effect on the environment. Brand Appeal Beyond Green The process of branding begins with understanding your institutional strengths - and it continues with integrating them into all points of contact with your audience(s) (Stifelman, 2008).

Electronic Branding means the process of creating the unique image of the product thru electronic ways like emailing, facebook, twitter, etc.

Mobile Branding means the process of creating the unique image of the product thru mobile like SMS text and mobile application like mobile games, mobile applications.

Marketers are majorly going towards Green Branding through the following ways:-

1. Changing color of their logo to green color
2. Advertising their brands through E-Branding & M-Branding
3. Avoiding wastage of papers in branding

With the attractiveness of social networking among the people, marketers also shifted towards the greener and electronic ways of branding the product. A green brand identity is defined by a specific set of brand attributes and benefits related to the reduced environmental impact of the brand and its perception as being environmentally sound. A well-implemented green brand identity should provide benefits to environmentally conscious consumers. While there are some studies on the perceived value of environmentally sound product attributes (Roozen, & De Pelsmacker, 1998), the role of emotional benefits in the case of green brands is still largely unassessed. In some cases manufacturers are even hesitating in starting recovery programmes because they fear cannibalization of their new products (Vadde, Kamarthi, & Gupta, 2007). The brand managers should deliver emotional benefits through the brand, at the same time making sure that target groups perceive real environmental benefits (Hartmann, Ibáñez, & Sainz, 2005).

Table. 1

Mobile Advertising Revenue by Region, Worldwide, 2010–2015 (Millions of Dollars), according to Gartner			
Region	**2010**	**2011**	**2015**
North America	304.3	701.7	5,791.4
Western Europe	257.1	569.3	5,131.9
Asia/Pacific and Japan	868.8	1,628.5	6,925.0
Rest of the World	196.9	410.4	2,761.7
Total	1,627.1	3,309.9	20,610.0

*Source: Gartner (June 2011) via: mobiThinking

According to a study of the research- and consulting initiative ***E-Commerce-Center Handel (ECC Handel)*** entitled "Mobile-Advertising is Point-of-Sale 2011" advertising via smart phones and tablets is getting more and more popular. Within a year the amount of users, who are "very interested" in receiving mobile commercial, increased almost by half (from 14. 5% in 2010 to 22% in 2011). That means for you as company: Keep abreast and integrate mobile advertising in your marketing-mix. One of the traditional ways for augmented profits and customer retention is maximum branding through Television commercial with highest TRP serials, Distributing paper brochures holding in the locality likewise.

2. Objective of the Study

With respect to the significance of environmental concern the following are the objectives of the study:-

1. To know about few of the companies who are green ultra-modern
2. To study the importance of greener way of marketing
3. To study the companies adding color green in their logos

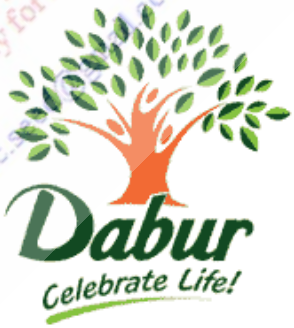
3. Companies Changed Their Logos

3.1 Dabur India Limited

Dabur India Limited is the fourth largest FMCG Company in India with Revenues of US$1 Billion (over Rs. 5,300 Crore) & arket Capitalization of US$4 Billion (Rs. 20,000 Crore). Building on a legacy of quality and experience of over 125 years, Dabur operates in key consumer products categories like Hair Care, Oral Care, Health Care, Skin Care, Home Care & Foods. **Dabur India Limited** is a leading Indian consumer goods company with interests in **Hair Care**, **Oral Care**, **Health Care**, **Skin Care**, **Home Care** and **Foods**. From its humble beginnings in the by lanes of Calcutta way back in 1884 as an Ayurvedic medicines company, Dabur India Ltd has come a long way today to become a leading consumer products manufacturer in India. **For the past 125 years, they have been dedicated to providing nature-based solutions for a healthy and holistic lifestyle.** Through their comprehensive range of products, they touch the lives of all consumers, in all age groups, across all social boundaries. And this legacy has helped them develop a bond of trust with their consumers. That **guarantees** us the **best in all products carrying the Dabur name.**

Dabur ranked the No. 2 Indian Green Brand by consumers in the Green Brands Global Survey 2011.

The banyan tree was the earlier logo of Dabur India which used to symbol of calm and wisdom. In Hinduism the banyan tree represents immortality.



With the completion of more than 100 years Dabur has modernized its logo with keeping the essence of Banyan tree and modifying it with more greenness. They subtly changed the logo with respect to the greener ways of celebrating the life. Tree is a symbol of life, food & livelihood.

3.2 Godrej Industries Limited

Godrej Industries is India's leading manufacturer of oleo chemicals and makes more than a hundred chemicals for use in over

two dozen industries. It also manufactures edible oils, vanaspati and bakery fats. Besides, it operates real estate. GIL is a member of the Godrej Group, which was established in 1897 and has since grown into a US$1.875 billion conglomerate. The company was called Godrej Soaps until March 31, 2001. Thereafter, the consumer products division got de-merged into Godrej Consumer Products, and the residual Godrej Soaps became Godrej Industries. This led to the formation of two separate corporate entities: Godrej Consumer Products and Godrej Industries.

Creating a Greener India-By Godrej

"Brighter living" is a unique vision with an inclusive approach aimed at creating a greener India. Developed with intelligent technologies, we seek to design and deliver environmentally superior products which are energy efficient.

Green Approach by Godrej

Our green approach has brought us much recognition, such as:

- Godrej Appliances launched India's first 100% green refrigerator in 2002, and to date Godrej is the only company to have a 100% green refrigerator.
- Godrej Appliances was the first to launch a 5 star DC range advertisements
- Godrej Refrigerators were conferred the National Energy Conservation Award 2009 by the Government of India.
- Godrej & Boyce received the Leader in Energy Efficiency & Sustainability Award.
- Godrej Bhawan got the LEED Gold Certification by the US Building Council, the first such building in Mumbai.

The old logo of Godrej had the corporate look with red color logo. However with respect to new logo with green, blue and maroon it has added the liveliness in the looks. Pinch of green symbolizes the greener approach of Godrej within the product and towards the society.

3.3 Videocon Industries Limited

Videocon Industries Limited is an industrial conglomerate headquartered in Gurgaon (NCR Delhi) with interests all over the world, and is an Indian multinational company. The group has 17 manufacturing sites in India and plants in China, Poland, Italy and Mexico. It is also the third largest picture tube manufacturer in the world. The group is a USD 4 billion global conglomerate. The Videocon group core area of business is consumer electronic and home appliance. Of lately they have diversified into areas such as DTH, power, oil exploration and telecommunication.

The old logo of Videocon was more techno type no frills, no glamour, simple, reliable and hassle-free. The new logo of Videocon symbolizes the technology with health and pleasure.

4. Branding through Mobile

Studies on this new advertising medium indicate that mobile advertising campaigns can generate responses that are as high as 40%, compared with a 3% response rate through direct mail and 1% with internet banner ads (Jelassi & Enders, 2004).

4.1 Coca-Cola

Characters and products in the game are branded with Coca-Cola's logo, which helps enforce the brand throughout the game. The game's goal is to spread happiness, which is Coke's tag line-Open Happiness.

Coca-Cola has rolled out a branded mobile gaming application that targets teens and young adults and lets them engage with the beverage giant on a deeper level.

4.2 Real Estate Advertisement

Most of the real estate advertisements are being done through SMS (Short Messaging Service).

4.3 Movie Branding

Now a day's movies are branding with mobile games like Ra One mobile games for Ra One movie.

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5. Branding through Electronic

Table 2.

Social Site	Number of user	Remarks*
Facebook	1 billion	Monthly active users on September 14, 2012
Twitter	0.5 billion	As per the information from Twitter visualization from Infographic Labs
YouTube	800 million	Users visit YouTube each month

* sources respective sites

Table 3.

Sl. no	Page on Facebook	Fans**	People talking about	Score
1	Tata Docomo	9,842,119	309,284	65%
2	Vodafone Zoozoos	5,597,057	565,713	72%
3	Nokia India	4,927,484	325,366	72%
4	Kingfisher	4,738,289	58,861	63%
5	Fastrack	4,699,179	146,008	N/A

Source Socialbakers.com

** Data is of India of 2012

In table 3 we can find that in India Tata Docomo have the highest fans; however people are talking more about Vodafone zoos. Moreover, Nokia is also leading in fans and People Talking About.

Table 4.

Sl no	Profile on Twitter	Followers	Following**
1	BCCI (@BCCI)	27	143,059
2	Harris Jayaraj (@ Jharrisjayaraj)	0	130,563
3	Tata Docomo (@ tatadocomo)	25	51,276
4	Samsung Mobile India (@ Samsung_India)	489	27,845
5	Club Mahindra (@ clubmahindra)	1	23,782

Source Socialbakers.com

**Data is of India of 2012

Here we can make out that BCCI have the highest following & secondly Harris Jayaraj has the following. Moreover we can observe that Tata docomo has third position on Twitter and on Facebook it is leading first.

Table 5.

Sl. no	Channel on Youtube	Subscribers	Uploaded video views**
1	Sony music India SME	146728	190,983,743
2	Nokia India Official	11105	12,760,224
3	Universal music India	6888	11,909,601
4	IN Airtel	5250	8,271,502
5	Garnier Light India	108	3,291,254

Source Socialbakers.com

**Data is of India of 2012

In table 5 we can observe that Sony Music India has the Maximum subscribers with highest uploaded video view. Here Nokia India Official is leading in second position whereas the same has a third position on the facebook.

With respect to the above mentioned tables we can study the companies' preference for being more inclined towards a greener approach of marketing i.e. branding of their products & services through social sites. Big Brand like Nokia, Tata Docomo or Vodafone Zoozoos in India catching the eyes of the customers through electronic mode.

6. Conclusion

In summarization of the study we can observe the greener approach of the various organizations for the branding of their products & services. In this study a glimpse of green branding has been discussed. The constraints to profitable growth that affect companies that market materials for recycle and reuse; and has outlined a possible strategy that these companies can adopt in order to overcome some of these constraints (Catulli, Morris, & Brown, 2009). However, there is a direct relationship between consumer attitudes and consumer behavior. Thus it is not a good idea to send SMS advertisements to potential customers without prior permission (Tsang, Ho, &, Liang, 2004).The scope of green marketing is becoming wider with the help of green which may also include green branding, green supply chain management, green product differentiation & green packaging with eco labeling. This act of green branding is a fruitful to the organization as well to the consumers. For the organization this will have the following major advantages

1. Green Branding will have green positive image of the organization.
2. Greener way will lead to better profits in long terms.
3. Economical cost for development of brand through mobile & electronic.

For Consumer the following are the major advantages:-

1. Sustainable development in the society
2. Better & greener place to live in
3. Awareness for the green & clean environment

The scope of green marketing is becoming wider with the help of green which may also include green branding, green supply chain management, green product differentiation & green packaging with eco labeling.

7. Limitation and Scope of the Study

This conceptual study is based on the data presented on the website of the company. This study was attempted to identify existence of a phenomena, which though theoretically anticipated, has not been tested practically in the Indian market. The study is but a small attempt to identify self acknowledged awareness of the phenomena towards the green branding. Scope of Green Banding is enormous. This is just a discussion of topic.

Company Website

http://www.dabur.com
www.videocon.com

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BOOK REVIEW

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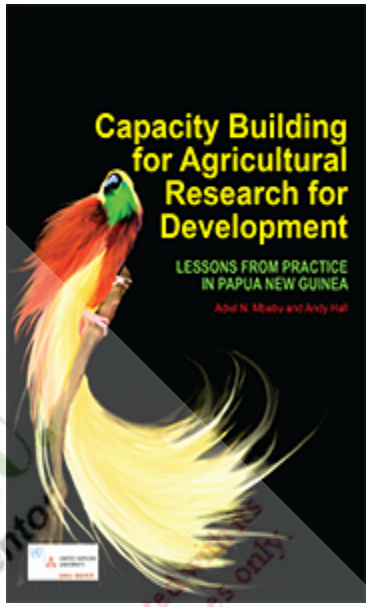
Capacity Building for Agricultural Research and Development: Lessons from Practice in Papua New Guinea.

Adiel N. Mbabu and Andy Hall



Citation

Adiel N. Mbabu and Andy Hall (Eds.) (2012) *Capacity Building for Agricultural Research and Development: Lessons from Practice in Papua New Guinea*, 274pp; United nation University-Maastricht Economic and Social Research and Training Centre on Innovation and Technology (UNU-MERIT), Maastricht: The Netherlands.

Review

The majority of people living in the Western Pacific countries of Papua New Guinea (PNG), the Solomon Islands and Vanuatu are dependent on semi-subsistence agriculture for their livelihoods. These countries, however, are grappling with major development issues including malnutrition, poor health and poverty, with more than 80 per cent of the population dependent on agriculture for their employment and income. Agricultural development is key to addressing regional development challenges such as poverty, malnutrition and inadequate food security, and insufficient economic growth. However, such development has remained stagnant over the past few decades. The lack of human resource capacities among agricultural research and development (R&D) institutions in these countries, resulting in their inability to deliver effective solutions to such problems, must therefore be addressed.

Innovative agricultural technologies based on scientific advances need to be developed and promoted. This will require adequate training in core research-related competencies, such as project cycle management (PCM), practical research skills, biometrics, Geographic Information Systems (GIS), communication skills, and an online regional agricultural information system (RAIS) to facilitate networking and sharing of information. With the acquired competencies, the participating organizations will become able to engage in effective research, train others in various core competencies, network with other institutions, and communicate the results of research to a wide range of stakeholders, including those responsible for formulating agricultural science and technology policies.

This book contains a collection of papers that discuss the experience of an Agricultural Research for Development (AR4D) capacity building program in Papua New Guinea (PNG). The program was the AusAID-funded Agricultural Research and Development Support Facility (ARDSF), which ran for five years from 2007 to 2012, and which sought to improve the delivery of services by agricultural research organizations to smallholder farmers. AR4D is an emerging mode of agricultural research practice in the international development community. Definitions of this practice are rather fluid, but its key intent is to directly link investments in research with tangible development outcomes. The way to actually do this is still a work in progress - a gap that this book seeks to fill. However, it seems quite clear that AR4D's use of systems perspectives on learning, innovation and change have fundamental implications for the way agricultural research is conducted and the way capacity is built.

Recognizing the importance of learning how to follow an AR4D orientation, this book originated as an attempt to document the capacity building process that ARDSF undertook and to draw lessons from it. This desire to develop and share lessons was

not part of the original ARDSF design. However, those involved in the program felt that their experience held valuable lessons for others. Lessons learning of this type in programs are increasingly viewed as a key way of improving the performance of agricultural and other development investments. Techniques such as institutional histories and other types of self-reflective exercises are now advocated as complementary activities to external review and evaluation approaches that most development investors require for both accountability and learning purposes.

While documenting process and developing lessons are laudable aims in theory, doing so in practice can be difficult, particularly in a busy development program with no mandate for either research or publications. ARDSF's approach to this grew organically as opportunities for documentation and analysis arose along the way.

ARDSF was a challenging program, but all those involved in it recognized its intrinsic value- mainly because of its adoption of an AR4D orientation. Having realized that the ARDSF experiences was richer than what was being captured by the program's M&E system, the ARDSF Director took it upon himself to find ways to document the process more comprehensively. Working with different people who had been involved with ARDSF, he began to record experiences. In doing so he recorded not only the rationale for why different approaches were followed, but also the different steps that were taken in the capacity building process, the pitfalls encountered and the outcomes achieved. These efforts produced the initial drafts.

Having completed most of the documentation process the ARDSF Director then brought distil critical reflections on ARDSF, particularly its use of AR4D as a way of farming its capacity building approach.

The value of agricultural research and technological change and innovation in transforming economics is uncontested. Yet the search for ways to improve the delivery of agricultural services to smallholders has exercised the minds of policy-makers for the entire 50 years of the development assistance era. Despite the emergence of new sources of economic growth, innovation in the agriculture sector remains a key avenue to poverty reduction, food security and trigger for broad–based growth.

The idea of AR4D has been enthusiastically embraced by the international agricultural community- it is now flagged as a mission/strategy/roadmap by a number of prominent regional and international research organizations, including Global Forum on Agricultural Research (GFAR), the Forum for Agricultural Research in Africa (FARA) etc.

AR4D certainly presents some compelling principles that resonate with much of recent thinking on innovation systems and contemporary notions of capacity as a systemic phenomenon. These principles include the need for capacity building to be learning- based and participatory; to be results- driven and explicitly linking research to development; to take a systems view, where research is planned and executed as part of a wider development agenda; to involve partnerships with policy and practice stakeholders; and for it be a continuous process of learning, where capacity building responds to the evolving context of the agricultural sector.

ARDSF, with its focus on improving the delivery of agricultural research services, is part of a long tradition of development assistance projects tackling capacity building of agricultural research and extensions organizations. One of its key features is its use of Agricultural Research for Development (AR4D) as a framework for structuring its support of capacity building. AR4D is a term that is used by a number of international, regional and sub-regional agricultural development organizations in Africa to describe a style of agricultural research that is explicitly focused on achieving development outcomes. AR4D is part of long history of approaches, concepts, and capacity building frameworks aimed at improving the performance of agricultural research. ARDSF is an example of this emergent practice.

A current trend in building capacity to support agricultural development is to use the heuristic of an agricultural innovation system. An agricultural innovation system is defined as "a network of organizations, enterprises and individuals focused on bringing new products, new processes, and new forms of organization into social and economic use, together with the institutions and policies that affect their behavior and performance.

ARDSF was launched on the back of studies carried out to analyze the state of PNG agriculture and define the areas where AusAID support was most required. An early study confirmed that the primary direct services from the PNG government to agriculture included: the provision of policy, research, development, extension and regulation. Further analysis articulated the confused, overlapping, disunited and inefficient state of sector governance arising from the multiple agencies delivering government services to this sector in PNG. This highlighted the need for interventions with agricultural R&D agencies to address governance reform concurrently with improving service delivery.

Talents are aptitudes that human beings are born with. These talents are affected by the environment. If this environment is supportive, talents are strengthened; if unsupportive, they are weakened. The aim of the organization in AR4D is therefore, to provide a supportive environment to nurture and strengthen the staff's talents to achieve effective performance. The term 'human talents' reflects the importance of the contribution of human beings to organizations. By seeing human talents as a necessary resource, the organization strengthens itself by hiring and developing talented people and synergizing their contribution within its range of existing resources. A human talents management and development system provides the basis for sustained effective individual, team and organizational performances.

The development and implementation of an agricultural innovations grants scheme as part of a capacity building process framed by AR4D. The grant scheme was critical to the capacity building process as it provided resources for agricultural research organizations to work in a new way as part wider development activities. The development of the scheme illustrates the way its protocols were iteratively developed through a series of four grant calls. This helped fine-tune the targeting of the scheme towards innovation projects that had development relevance and made the most of research as well as development expertise of the partners involved. The success of the scheme has made it a potential candidate for scaling up as a national competitive grant scheme. The establishment of an Agricultural Innovation Grants Scheme (AIGS) was the third component of ARDSF. Its overall purpose was to promote agricultural innovation in order to improve agricultural productivity and increase incomes and food security among smallholder agricultural producers in PNG.

AR4D recognizes that impact arises from an integrated set of activities, partnerships, strategies and policies, monitoring and evaluation system need to be designed in such a way that allows the effectiveness of individual component parts to be understood as part of a greater whole. ARDSF adopted an approach where planning, monitoring and evaluation (PME) were designed with this integrated vision of impact pathways in mind. Key here was the cascading logic of a results framework, which positioned activities at different levels in a hierarchy of objectives linked to a higher–level objective of improving food security and smallholder prosperity. ARDSF, in its effort to facilitate capacity building, recognized the need to create linkages between agricultural research and policy-makers and the policy-making process—a key element of the AR4D orientation.

BOOK REVIEW

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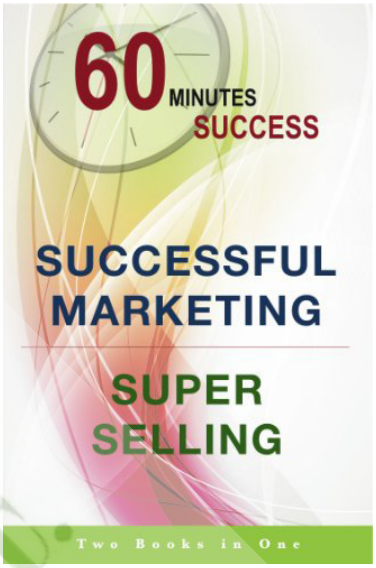
60minutes success successful marketing+ super selling 2 books in one

Calum Roberts



Citation

Roberts, C. (2013). *60minutes success successful marketing+ super selling 2 books in one.* Media eight international publishing limited. Publisher: Media eight international publishing limited.

Abstract

2 books combined into one—This book is packed full of tips and techniques with real life examples and offers all one needs to know about basic marketing skills and to revitalize one's selling to realize the true potential for success. The book sets out all the key issues and gives a blueprint which is pervasively applicable.

Keywords

Marketing, Customers, External and Internal Audit, NLP, Digital Marketing, P's of Marketing, Public Relations, SUSS approach

Review

The book is written lucidly without incomprehensible jargons and offers learning quickly and without hassle. It distils the essential practical advice one can use straight away.

Successful Marketing is a collection of hands-on tips that help to spot any shortcomings and turn them into strengths. There are graphic features used throughout the book with basic advice and examples given as bullet points.

The book provides insightful lessons with practical advice on how to make a big impact when selling. It covers topics like Marketing plan, the cardinal rules of marketing, external influences like PEST (politics, economics, sociology and Technology), 4 P's of marketing. It further gives an insight to the extended marketing mix and digital marketing.

Marketing is an essential function of any business. The better you are at it, the more your business will prosper.

Marketing the product over the telephone can be a very effective way of getting results and it is believed that the response rate is many times higher than with direct mail or other forms of marketing.

The second part of the book i.e. Super selling which is infinite ideas with Russell Webster talks about how to empathize with people and how to get them to like you. The 'Gordon Gecko' approach to business which essentially adopts a 'win at any costs' strategy is gone forever. This book teaches you new skills for new age. It throws light on terms like NLP (Neuro linguistic programming), the SUSS approach.

The book gives a framework within which to work and the points serve as guiding principles.

The ability to seek information and then deliver solutions is the key to successful selling. The ability to understand and practice this is what sets great salespeople apart.

The salesperson must see the customers as real people and not merely as faceless employees.

Being adaptive and flexible in your verbal and non-verbal responses gives an extra special edge not just in selling but in interacting with others.

Overall and informative and worthy read.

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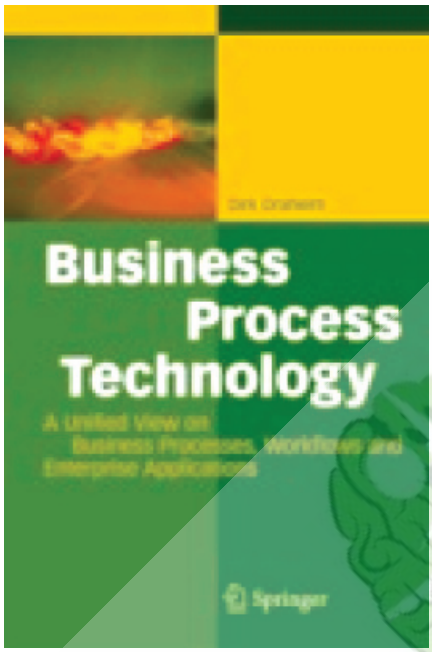
Biographical Note of the Luminary in an Area of IS



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Dirk Draheim is currently head of the IT Center of the University of Innsbruck as well as Adjunct Reader at the Faculty of Information Systems at the University of Mannheim.

Furthermore, he is active as Senior IT Consultant in the area of enterprise information systems. Over the years Dirk Draheim has conducted dozens of large enterprise IT projects in several countries in the domains of banking, insurance, production, electronic manufacturing and public security. Dirk Draheim is author of the Springer book "Business Process Technology". According to Colin Aktinson, chair of software engineering at the University of Mannheim, "Business Process Technology by Dirk Draheim is the first book to successfully combine an in-depth scientific examination of business process automation principles with a highly practical explanation of the business process technologies, solutions and packages offered by the big industrial players." Dirk Draheim is also co-author of the Springer book "Form-Oriented Analysis - A New Methodology to Model Form-Based Applications", editor of two Springer LNCS issues on "Trends in Enterprise Application Architecture" and has authored more than 50 scientific articles and papers in international journals and conference proceedings. Please find out more on: http://draheim.formcharts.org/.

Dirk Draheim completed his Diploma in Computer Science at the Technische Universität Berlin in 1994 and his PhD in Computer Science from the Freie Universität Berlin in 2002. From 2002 to 2006 he worked as a lecturer at the Freie Universität Berlin, University of Auckland, University of Mannheim, and Johannes-Kepler-University in Linz. From 2006 to 2008 he was area manager for database technology at the Software Competence Center Hagenberg. Currently, Dirk's main interests are the future of enterprise resource planning systems as well as emerging enterprise technologies like social software and how these can be combined to add real business value in enterprises, see, e.g.:

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Great Enterprise Contribution to Society in Information System Perspectives

Sanjeev Deshpande, Chief Mentor

Impetus Corporate Consulting

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Impetus Corporate Consulting is conceived by veteran Pharma professional **Sanjeev Deshpande**, now a Corporate Trainer in the industry. He is also an accredited NLP (**Neuro Linguistic Programming**) trainer based at Mumbai, India.

"IF WE TREAT PEOPLE AS THEY ARE, WE MAKE THEM WORSE. IF YOU TRAIN THEM AS THEY OUGHT TO BE, WE HELP THEM BECOME WHAT THEY ARE CAPABLE OF BECOMING."

The biggest resource, **"Human Resource"** is thus neglected in our industry. We do not have Training & Development of our own employees on priority, for long term gains & more so retaining the talent we have happened to hunt while employing them. In near future, when competition will be going from worse to still intense worse, due to branding challenges, the only resource; our own field sales force is the one to secure us where we are. They need to be nurtured properly with training as one of the important component of whole policy.

As a Corporate Trainer he combines conventional methods and tools of **NLP** (Neuro Linguistic Programming) to make the training sessions very effective.

As the name suggests, "IMPETUS" brings about the desired changes effectively and quickest. This is because of the fact that, as a Corporate Trainer, **Sanjeev Deshpande** uses the methodology based on Neuro Linguistic Programming techniques.

As a Corporate Trainer he covers various industries including Pharma and has developed various modules of training based on Neuro Linguistic Programming, those are tailor made for individual needs Impetus Corporate Consulting has mission to develop **"Human Capital"** through their training which transcends the performance from **"Good to Outstanding"**.

Sanjeev has been **personally trained** & mentored by two **International Master Trainers of NLP, Dr. David Lincoln and Mr. Ralph Watson from UK.**

Unlike other Corporate Trainers, Sanjeev believes in "doing" the things rather than giving lectures. All his Corporate & NLP workshops for are full of activities and demonstrations.

Sanjeev uses **NLP** tools and techniques to empower the people and help get them to give the best possible performance.

As a Corporate Trainer, Sanjeev Deshpande has developed different modules for Corporate executives and customizes with the needs of individual organization.

As a Corporate trainer equipped with techniques of NLP (Neuro Linguistic Programming), Sanjeev does it passionately.

What is Neuro-Linguistic Programming?

The software manual for the brain!

Most powerful Transformational technology!!

NLP is a process oriented psychology, which anyone can easily learn, adopt for change in self and even others. NLP is like the **User's Manual** for the mind, and allows us to use the language of the mind to consistently achieve our specific and desired outcomes.

Unarguably, the most powerful behavioural science on the planet, today. "An attitude of insatiable curiosity, about human beings, with a methodology that leaves behind it a trail of techniques."
– **Richard Bandler** (Co-founder of NLP stated)

At the heart of NLP is a wide range of methods and models that offer an understanding of how people think, behave and indeed actually change. NLP offers a flexible approach which brings about positive, fast change in individuals and organisations and empowers them to adapt to an ever-changing world. An empowerment that is greatly needed in an ever changing and evolving India...

NLP describes the fundamental dynamics and connections between the mind (Neuro) and language (linguistic) and how their interplay affects our body and behaviour (programming). Neuro refers to the Neuro-logical system and is based on the idea if not fact that we only experience the world through our senses and translate this sensory information into thought processes, both conscious and unconscious. These thought processes activate the neurological system, which affects physiology, emotions, and behaviour. NLP is about learning how to manage our neurological system for optimum results. Or to put it more simply NLP is about state control – controlling the state you are in. Linguistic refers to the way human beings use language to make sense of the world, capture and conceptualize experience, and communicate that experience to others. It is the study of how words mediate and influence human experience.

Much of NLP is about learning how to think more effectively and communicate more effectively with yourself and others. Not to communicate using a lot of superfluous and often misunderstood additional words..........

NLP is a way of thinking and a set of skills that are easy to understand, that will give you more focus, self esteem, power to make good decisions, focus, direction, self confidence, ability to create wealth, productivity, less procrastination and faster progress.

NLPs core idea is that an individual's thoughts gestures and words interact to create ones perception of the world (maps of reality) by changing ones outlook, therefore a person can change his attitudes and actions, hence the results.

Taking control of one's mind is the heart of NLP

NLP is the cutting edge of human development because it teaches the fundamentals of how your brain works.

NLP is a relatively new discipline that has evolved from several distinctive and different intellectual disciplines--Cybernetics (Communication within complex systems both mechanical and living) Philosophy, Linguistics-Gestalt Psychology-Cognitive and behavioral psychology-Anthropology-Computer science, Neurology and Studies of the Unconscious mind.

The attitude of NLP involves one of **intense and excited curiosity**. It involves the desire to know what goes behind the scenes. This curiosity makes us know what makes the human mind work.

NLP also involves an attitude of **experimentation**. With such an attitude we "try things" and then try something else….. Always trying, getting results, using the feedback, and then experimenting with something else. If something does not work we try something else.