SHANLAX

INTERNATIONAL JOURNAL OF MANAGEMENT

(A Peer-Reviewed-Refereed/Scholarly Quarterly Journal Globally Indexed with Impact Factor)

Vol. 5 Special Issue 4 April, 2018 Impact Factor: 3.122

ISSN: 2321-4643 UGC Approval No: 44278

National Conference on

Industrial Innovative Management Practices

(IIMP – 2018)

15th & 16th March 2018

Organized by

Department of Industrial Engineering & Management
&
Master of Business Administration

Aided By Govt. of Karnataka

Dr. Ambedkar Institute of Technology

(An Autonomous Institute, Affliated to VTU, Belagavi,
Aided by Govt. of Karnataka, Near Jnanabharathi Campus, Mallathahlli, Bangaluru – 560 056

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A STUDY ON POST PURCHASE BEHAVIOR REGRET IN ONLINE SHOPPING

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Abstract

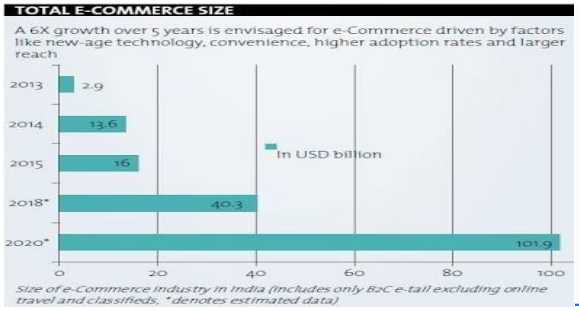
Today the modern market has transformed the complete mentality of shopping trend. The online shopping has created both satisfied and unsatisfied customers. In convention marketing if the customer is dissatisfied with the purchase he or she can go to the shop directly for an exchange or return. This might not be immediately possible in online shopping. So the rate of dissatisfaction or regret on purchase may be higher. The study is aimed to ascertain the post purchase behavior regret of online shoppers. The online shoppers in India are set to grow the fastest within the Asia pacific region between 2012-2018. Convinces product variety comfort and easy of delivery, huge discounts drives online shoppers to just click on the button to make a purchase order even when that particular product is not necessary. The study aims to find out the types of post purchase regret behavior amongst online shoppers and also tries to study the satisfaction level of online customers amongst the buyers. Around 100 samples were chosen who are employed and homemakers. The respondents for the study were people who belonged to the age group below 35 years in Bangalore. To study further tries to find out the association between post purchase behavior of respondents and demographic factors.

Keywords: *consumer behavior, online shopping, Post purchase behavior, marketing.*

Introduction

The introduction of the internet has seen the massive utilities for people to shop. People now a days are no more bound to shop in the traditional methods of shopping. Online shopping has changed the meaning the history of traditional methods of shopping. The consumer has no longer has to wait he can shop at any given point of time or at any time. In other words online shopping has created huge convenience for the people to shop. Customers use internet not only to buy the product but also to compare and evaluate the product at the same time.

Before a consumer will make his purchase online there is a lot of factors which influences him to buy the product. Ultimately the consumers might or might not be happy post purchase. This paper collects information regarding the various regrets of the consumer after purchasing and makes an attempt to study the regret behavior of the consumer.



(1) The Graph exhibiting the E commerce, growth and projection in India from the year 2013-2020.

(2) The graph showing the spending on online shopping by different countries.

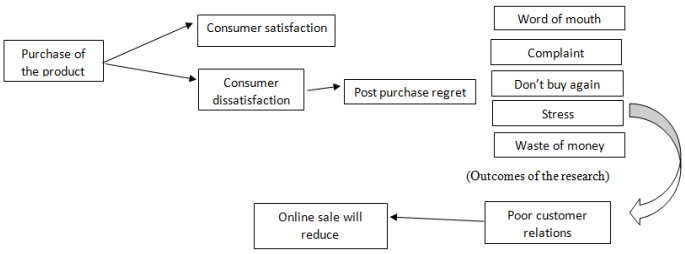
Need of the Study

Online shopping has become a trend in marketing situation. Even for the small purchase, people prefer on online purchase. The recent study in reviled that online users are going to touch 100 million by 2018. This study aims at studying the buying behavioral pattern in online and understanding the post purchase regret behavior of the consumer.

Objective of the Study

- To study the existing online purchase pattern.
- To study the types of goods purchased online.
- To understand the post purchase behavior of the online shoppers.
- To convert the regret behavior into better customer relationship management.

A Conceptual Framework of Post Purchase behavioral Regret in Online Shopping



The above model explains various stages of post purchase regret behavior of the consumers in online shopping. When a person buys the product online there might be two outcomes expected. He might be either satisfied with the product or dissatisfied with the product. Dissatisfaction of the product leads to the post purchase regret amongst the consumers. The post purchase regret might be expressed through word of mouth, or the customer might complain regarding the products or service, the consumer stops buying the product online from his next purchase. It will create the stress within the customer and he will think it might be a waste of time to purchase goods online. This behavioral aspect amongst the customers might hamper the company and consumer relationship which will in return will lead to decline in the sale of the online purchases. This study makes an attempt in recognizing the various aspects of the post behavioral regret amongst the customers and the ways in which the company can maintain the healthy consumer relationship.

Review of Literature

Zivile and Gintare (2015), extended their study to focus on online shopping by consumers and factors influencing the online shopping by the consumers, also to make recommendations on using the main factors contributing to shopping online. They found that factors which influenced consumers to buy online are lower price, lack of time, wider choice and convenient. The study has showed that in most of the cases shopping in E-stores is preferred for it convenience and simplicity. Recommendations are to be improvised by website and owners to make online portals more user friendly.

Zan Mo, Yan-feili, Peng Fan (2015), the study aimed to study the impact of reviews given by previous purchases to make the present buying decision. With the given reviews the present purchases. And also they aimed to study the stimulus responses theory of consumers. Findings of this study are referred to sellers who can increase quality of the product in order to seek positive reviews and high quality reviews in the process after sales. The study can also be referred by the consumers to make quick decisions based on online reviews in short period of time.

Miao wang and Honglian Du (2017), studied the impact of online shopping return policy on consumer behavior. The problems related to the return policy was also studied. Consumer's problems related to the return of the product when they are not satisfied with the quality of the product because of which the reliability of the consumers on online shopping reduces. Inference foe the above is that the return policy can be summarized in return time, return cost and return operations.

Akci and Kaazum (2016), Analysis of post purchase consumer regret attempts to analyses the post – purchase consumer regret and investigates the reason for regret and how others are influenced by the individual regret. The study reviled that the consumers are regretted in the situation where same product is available at lower price in another portal or retail shops. Although the respondents showed some differences in their post purchase behavior depending on their gender and marital status, they were similarities also. The study found that majority of them were influenced by the review of the consumers with concern to regret.

Theresa Nithila Vincent (2016), aimed to explore the difference in the shopping style across demographics such as gender, educational level and regional background. The study reviled that there was no significance difference in the shopping style of young adults towards purchase of appeals and also there was difference in the shopping styles across gender.

Padmanabha (2014), revealed that the purchasing experience will differ from purchasing goods. Online and other financial risk stops the consumers from online shopping. Delay and non-delivery of the required products on time will stop the buyers from purchasing online. The study further detailed that people with high income are less concerned with financial risks. The factors impending online buying of household items discovered that dude to no proper access to internet stopped the people from purchasing online. Tangibility of the items was of main concern. As the customers would not feel and touch the product restricted them in purchasing online. No easy return policy made them think that online purchasing is more complex process as compared to traditional buying. Extended study reviled that women are the decision makers in the house thought they know the huge discount was available online they preferred traditional purchase. Another way in concern was the transaction and payment modes.

Archana Singh (2016), the search mainly focus on discovering the dimension of youngsters buying behavior pattern online. It was understood that the shoppers compare, evaluate, and visit familiar websites and then will make purchase and they are happy with the product received. There are 5 types on consumers who are classified into different groups, conscious

shoppers, uninterested, impulsive and brand shoppers. The analysis did not make an attempt in studying all the aspects of consumer purchase in E- retail.

Research Methodology

This study is descriptive in nature and aims at finding the post purchase behavior of online shoppers. The population of the study is working executives, college students, home makers of Bangalore city in particular to Jayanagar during the month January 2018. The sampling technique used is non probability sampling type and convenient sampling. The data collection tool used to measure level of regrets is a 5 point liker scale anchored at the end points with strongly agree\ strongly disagree with neither agree nor disagree anchoring the middle position. The scale was developed after performing phenomenological research.

Questions regarding how often do you shop online, type of goods purchased online, why they purchase, rating of online shopping were asked. In addition, data pertaining to demographic variables were also collected. 100 final samples were considered.

Sample Description

The profile of the respondents who participated in the study has been described by the information reviled to their basic demographic (age, marital status, income, family size and occupation) and their engagement with online shopping. The study includes both women and men respondents as well as students. Majority of the respondents were young aged employees and home makers which, which indicates the growing interest in online shopping.

Data Type: Primary and secondary data

Data Sources: Questionnaire, journals, Internet, articles and text books**.**

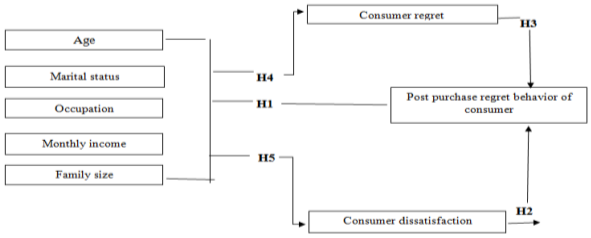
Data collection Tools: Questionnaire

Statistical Tools: Chi – Square Test

Limitations of the Study

The study was carried out in only one are of the city, so the output cannot be generalized to the entire population of the city. The samples chosen belonged to only the age group from 20 to 35 as it was assumed that the said age grouped was felt to be the frequent online shoppers in the city. The sample size is only 100 and there are possibilities that the outcome of the study may be different if the sample size is large.

Research Model of the Post-Consumer Regret Behavior



Analysis and Results

Table 1 Showing the Demographic Profile of the Respondents

Particulars	Frequency	%
Age		
20-25	35	33.3
26-30	36	34.3
31-35	29	27.6
Marital status		
Unmarried	53	50.5
Married	47	44.8
Occupation		
Business	3	2.9
Student	50	47.6
Software	30	28.6
Home maker	17	16.2
Monthly Income		
10000-20000	2	1.9
21000-30000	3	2.9
31000-40000	58	55.2
41000-50000	32	30.5
51000 and above	5	4.8
Family size		
2	3	2.9
3	5	4.8
4	38	36.2
5	51	48.6
6	3	2.9
Source: Primary Data		

Demographic profile of the respondents is shown in the table 1.1. The respondents were of Jayanagar region. Demographic factors study the factors like age, marital status, occupation monthly income and family size of the respondents. Out of 100 respondents 35 of them (33.3%) are in the age group of 20-25 years. 34% of the respondents are in the age of 26-30 years and 27.6% of them are in the age of 31-35years. 53 of the respondents are married and the rest of 47of them are unmarried. Amongst the occupation of the respondents 47.6% of them were students 28.6% of the respondents were software employees, 16.2% of them were home makers and the remaining 2.9% of them were business man. Around 1.9% of the respondent's monthly income was between 10 -12 thousand, 2.9% of the respondents earned 21-30 thousand per month, 55.2% of the respondents earned 31-40 thousand per month, 30.5% of the population earned between 41-50 thousand per month and remaining 4.8% of the respondents earned above 50 thousand per month. The family size of the respondents were from 1nos- 5nos 48.5% of the respondents were 4 members in the family and followed by 36.2% were 3 in numbers.

Table 2 Showing the Measurement Model of the Respondents

Particular	Frequency	%
Frequency in Shopping		
Daily	2	1.90
Once in week	18	17.1
Fortnight	21	20
Monthly	59	56.19
Frequent Purchases		
Grocery	11	10.47
Apparels	42	40
Accessories	3	2.85
Electronic items	38	36.19
Others	6	5.71
Reason for frequent purchase.		
Good offers	23	21.90
Conveniences	46	43.80
More alternatives.	4	3.80

Easy delivery	10	9.52
Prices.	17	16.19
Money spent on purchase		
Below 500	26	24.71
501-1000	53	50.47
1000-2000	18	17.14
2000 and above	3	2.85
Purchase made for		
Family members	15	14.28
Friends	6	5.71
Self.	77	73.33
Shopping experience		
Highly satisfied	10	9.52
Satisfied	66	62.85
Neither satisfied nor dissatisfied	21	20
Dissatisfied	3	2.85
Highly satisfied.		
Source: Primary Data		

The respondents were of Jayanagar region. Measurement factors study the factors like frequency in shopping, frequent purchases, reason for frequent purchase, money spent on purchase, purchases made for, shopping experiences. Amongst the respondents 56.19% of the respondents said they shop daily. 43.80% of the respondents said that they shop electronic items on their frequent purchases. Around 50.47% of them spend (501-1000) on their shopping. (73.33%) of them shop for self while shopping. And (62.85%) are satisfied with the shopping experience.

Hypothesis

The hypothesis is formulated and the results are given below:

	Hypothesis	**Accepted / Rejected**
H1	There is no association between age and shopping frequency	Accepted
H2	There is no association between age and online factors	Accepted
H3	There is no association between marital status and shopping frequency	Accepted
H4	There is no association between marital status and amount spent	Accepted
H5	There is no association between age and amount spent	Accepted

1. There is no association between age and shopping frequency as chi square value (.860) is more than the table value and hence the hypothesis is rejected.
2. There is no association between age and online factors as chi square value (.860) is more than the table value and hence the hypothesis is rejected.
3. There is no association between marital status and shopping frequency (.360) as chi square value is more than the table value and hence the hypothesis is rejected.
4. There is no association between martial factors and amount spent as chi square value (.230) is more than the table value and hence the hypothesis is rejected.

5. There is no association between age and amount spent as chi square value (.453) is more than the table value and hence the hypothesis is rejected.

Recommendations

The purchases of the consumers are uncontrollable in hands, but the regret behavior can be under control. To minimize the regret behavior of the consumer, it is responsibility of the online portal to collect periodic feedback from the consumer, to develop the trust and loyalty and maintain a good consumer relationship. Online vendors should not only focus on getting new consumers, achieving maximum target of sales, and giving attractive offers to attract their consumers into their kitty, instead they should also focus on maintaining standards of quality delivery, and building the long term relationship and trust.

Conclusion

Online shopping is a new experience and has greatly impacted the lives of consumers in its short time of existence. It is expected to grow constantly in years to come with advancements in technology. The survey conducted revealed the outcomes of consumer post purchase behavior. Considering the demographic profiles of online users like gender, age, income and education have significant association to web shopping in the current period.

The overall results prove that customer satisfaction to be considered with keen observation so that the motives of e-portals to be achieved. The online shopping has grown gradually higher from previous years. Individuals who purchase online perceived significantly greater benefit in terms of convenience, price and a wider selection than those who did not have online purchasing experience. There is a close relationship between the satisfaction level and the frequency of the buyers. The frequent buyers are satisfied with the products. There is a relationship between the buying pattern and the dissatisfaction level amongst the consumers. Though they are dissatisfied with the product they still shop online hoping that they will be satisfied with the product one day. Complaints should be considered strongly so that faults will not repeat again. The current study, which investigated post purchase consumer regret and the resulting consumer responses to this regret, concluded that lower, service inconvenience and easy return policy quality product caused higher levels of regret. Consumer who experience regret tend to return the product, if the return is not accepted they tend to conceal their sadness to their friends, family etc.

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A STUDY ON THE APPLICATION OF SIX SIGMA–DMAIC ON BUSINESS PROCESS SERVICES

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Abstract

Six sigma is one of the important Quality improvement tool. It was pioneered in the manufacturing industry in 1980's. Gradually it has been developed and now it is implemented in various types of industries like pharmacy, healthcare, education, IT and service industry.

This study mainly focuses on how six sigma is applied in service industry. Six sigma methodologies are of two types – DMAIC and DMADV. DMAIC- Define, Measure, Analyze, Improve and Control, is a methodology implemented for existing business process. DMADV - Define, Measure, Analyze, Design and Verify is a methodology implemented for creating new product or process design . Our study mainly concentrates on the improvement of existing business process by focusing only on the applicability of six sigma-DMAIC.

Six sigma helps to reduce the variation, defects, cost, time and makes the business process still more better and faster by satisfying the customers and maximizing the organization's profit.

Keywords: *Quality improvement tool, Six sigma, business process, DMAIC, eliminating defect and variation.*

Introduction

Six sigma is used a quality improvement tool. This is because six sigma is used to measure and define the quality and perfection. Six sigma refers to 3.4 Defects per million opportunities. Motorola Company first introduced six sigma in around 1982 to find out the imperfections that was taking place throughout the assembling methods and to minimize the imperfections to certain extent. At present six sigma is not only restricted to manufacturing industry, it has its impact over healthcare, service, IT and education. The six sigma concept believes in delivering higher customer satisfaction, business excellence and super profits by improving every process in an enterprise.

Six sigma is an effective methodology to systematically improve business processes by reducing variation and eliminating defects. The word six sigma is used to denote standard deviation in statistics. A sigma value measures the ability of a process to perform or deliver defect free output. Higher the sigma value better is the process performance.

Review of Literature

H. James Harrington, Author & Management Mentor "Measurement is the first step that leads to control and eventually to improvement. If you can't measure something, you can't understand it. If you can't understand it, you can't control it. If you can't control it, you can't improve it."

Shigeo Shingo, the world's leading expert on manufacturing practices and the Toyota Production System "The Most Dangerous Kind of Waste is the Waste we don't Recognize."

Joseph M. Juran, Romanian-born American engineer and management consultant, proponent of the Pareto Principle and founder of the Juran Institute "Without a Standard, there is no logical basis for decision making or taking action"

Objective of the Study

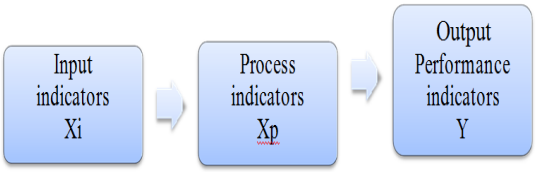
1. To make continuous improvement in the business processes of service Industry.
2. To define, measure, analyze, improve and control the business processes
3. To succeed and sustain the quality improvement requirement of the service Industry
4. To satisfy the customers by reducing the variation, defect, cost and cycle time of the processes.

Function of Six Sigma

Y = Effect, Output, Dependent, Symptom

Y = f (x)

X = Cause, Input, Process, Problem, Independent variable



Methodology

In this study our main focus is on one of the six sigma methodology i.e. DMAIC which is implemented in order to improve an existing business process. DMAIC stands for Define, Measure, Analyze, Improve and Control.

Define

Defines the goals of the project that are aimed towards customer expectation, organizational goals and strategies This is the very first stage where project team is formed and the team objectives are decided. They collect the feedback from the customers known as **Voice of customers (VOC)**. This aims at providing the best quality service to the customers.

Then to determine critical to quality characteristics **Critical to Quality (CTQ)** are the needs, requirements or feedback of customers translated into measurable and meaningful business term.

After CTQ, a **Project Charter** has to be developed. A Project charter is a document that provides purpose and goals to the improvement team. It contains Business case, Problem and goal statement, project scope and milestones.

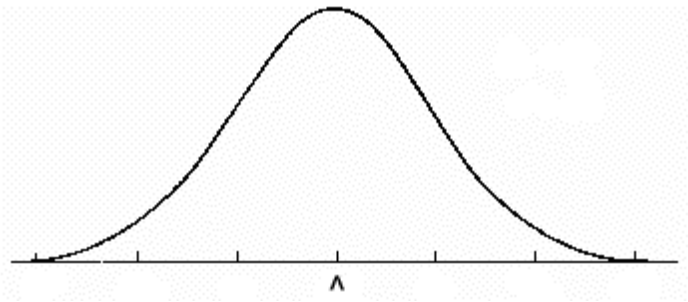
Measure

Second phase is Measure phase where it reviews various measures to acquire good data. Proper **Data must be selected**. Data can be either continuous data or discrete data. An operational definition has to be stated. **Operational definition** is a concept that guides the team in thinking on what to measure and how to measure the data.

After thinking about how to measure the data, proper **sampling strategies** has to be adopted and **data should be collected**.

Post collection of data, defect should be found out. **Defect** refers to any part of product or service that has not met customer requirement or specification. **Specification** is a product specification limit from the customers.

For eg: The normal length of the pencil is 12 cms. The upper specification limit is12.5cms and Lower specification limit is 11.5 cms. These are the limits specified according to the specifications of the customers. Any pencil, which is beyond this specification, is to be considered as defect.



11.5cms 12 cms 12.5 cms

Later **performance standard** should be created. It translates the customer needs into a measurable characteristic. The steps, events, operations and relationships of resources are graphically represented within a process known as **Process Mapping**.

The statistical properties of process measurement systems are evaluated by using **Measurement system analysis (MSA)** tool. The errors are measured by using the methods of **Repeatability, Reproducibility, Bias, Sustainability**. Later by standard deviation, histograms, Normal distribution curves.

Process capability is known by calculating **Defect per unit (DPU)** and **Defect per million opportunities (DPMO).**

Analyze

This phase reviews variation and significant contributions to the output by using different **graphical tools**. Box plot, Main effect plot, Multi vari chart, Scatter plot, Regression analysis, Pareto, Cause effect diagram, FMEW Analysis are mainly used. Later should prioritize the causes, frame hypothesis and hypothesis testing should be done.

Improve

This phase focuses on understanding the **key process input variables (KPIVS)** that are causing effect on the overall project and also in identifying the solutions by using various techniques like brain writing, mistake proofing etc. and then selecting the best solution by using **Cost Benefit analysis**.

Control

The closing performance and all related changes are documented in the control document. Main aim of this phase is to hold the sustainability in the business process. Various tools like

SOP's, SPC are used. Finally everything leads towards project closure where control plan is prepared, solution is implemented and the result of the end project document is communicated to all within the organization.

Findings, Suggestions and Conclusion

Six sigma is mainly implemented in order to reduce the defects in the business processes. It might seem to be very expensive, as it needs experts to handle the whole scenario. However, once you implement the quality tool for the processes, it enhances the effectiveness of the process and reduce the variation and defects that is caused in a process and contributes towards the profit maximization. It mainly focuses on reducing the variation, defects, cost, time and results in satisfying the customers and enhancing the organizational profits. Higher the sigma value, better will be the process.

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TRANSFORMATIONAL LEADERSHIP: AN EMPIRICAL STUDY OF EMPLOYEES WORKING IN DIFFERENT IT COMPANIES

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Abstract

To understand the factors with which these leaders exert influence on team members and measuring the team members satisfaction with regard to their respective team Leader. Sampling method used for this study is convenient sample. One of the newest and most encompassing approaches to leadership, transformational leadership is concerned with the process of how certain leaders are able to inspire followers to accomplish great things. Transformational leadership emerged from and it is rooted in the writings of scholars such as burns (1978). In this report I found that there are several positive features of the transformational approach, including that it is a current model that has received a lot of attention by researchers, it has strong intuitive appeal and kit places strong emphasis on morals and values. Today's information and knowledge society requires new leaders who can confront a reality based on knowledge and foster innovation to achieve improvements in organizational performance. However, organizations sometimes fail to achieve sustainable competitive advantage due to their limited understanding of the relationships between these strategic variables. To date, very little research has analyzed the direct and indirect relationships between these variables. Our study seeks to fill this research gap by analyzing theoretically and empirically how the leader's perceptions of different intermediate strategic variables related to knowledge (knowledge slack, absorptive capacity, tacitness, organizational learning) and innovation influence the relation between transformational leadership and organizational performance. Based on the literature, we develop a theoretical model that shows the interrelations between these variables.

Keywords: *Leaders, Transformational Leadership, Organizational performance*

Introduction

Transformational leadership influences the fundamental attitudes and assumptions of an organization's members, creating a common mentality to attain the firm's goals. This leadership style usually generates higher performance than transactional leadership. Although evidence shows that the transformational leader exercises a substantial influence on performance, understanding of the processes through which he or she exerts this influence is still limited and largely speculative. Few studies trace the causal path of the effects of transformational leadership on performance systematically by examining the intermediate influence of leaders' perceptions of different strategic variables related to knowledge and innovation. In today's information society, the management of knowledge and innovation are key processes that enable us to create, exploit, renew and apply knowledge flows in new ways to create the essential competences for improvement of organizational performance.

From this perspective, the transformational leader should manage an organization understood as a 'system based on knowledge, a system through which circulate information and basic knowledge (explicit and tacit), knowledge acquired from the outside (absorptive

capacity), or existing knowledge in the organization (knowledge used and knowledge slack). This circulation of knowledge creates a knowledge flow that, through various processes of transformation (organizational learning), creates new knowledge which, when applied (innovation), generates essential competences for the firm'. It is not the members' knowledge in itself that is strategically vital, but the presence of good leadership to enable the organization to integrate, share and use this knowledge innovatively.

If we analyze this understanding of the organization in depth, we see that *basic explicit and tacit knowledge circulates* in the organization. The degree of tacitness is especially strategic, as tacit knowledge is difficult to express, formalize or share, making it much harder for competitors to copy than explicit knowledge. Tacit knowledge is crucial to managers' mental models, which determine how managers understand cause–effect connections, give meaning to events and make decisions. Yet tacitness as a theoretical concept has received little empirical attention.

Organizational knowledge is *acquired from the outside* through *absorptive capacity*. It is the firm's ability to observe the value of new knowledge, assimilate it, and apply it to commercial ends. This dynamic capability influences the firm's ability to create and deploy the knowledge required to build other organizational capabilities (organizational learning, innovation) that give the firm a base from which to achieve superior performance). Organizational knowledge also exists *inside*the firm, whether currently in use or awaiting a production need. *Knowledge slack* is essential for creating, sharing and exploiting new knowledge. Drawing on, we define knowledge slack as the pool of knowledge resources in a firm in excess of the minimum necessary to produce a given level of organizational output. Slack facilitates freedom to develop research or projects that may not generate tangible outputs in the short term but that may provide the knowledge base for future success.

From the second part of the definition above, we see that organizational learning enables development of new skills and knowledge, increasing the organization's capacity to carry out effective actions and improvements in organizational performance (**Senge, 1990**). Innovation has been defined as a new idea, method or device, the act of creating a new product, service or process. Although firm innovation is widely prescribed as a means to improving organizational performance, many firms do not or cannot develop it properly. Researchers have urged attention to what enables firms to innovate. Several studies link 'transformational leadership' to innovation. Leaders' perceptions of these strategic variables are crucial to stimulating organizational performance. They play a major role in informing and molding these variables by determining the types of behavior expected and supported. Leaders tend to form simplified internal cognitive representations and use these mental models to focus on variables they judge to be critical. They make decisions and measure their performance based on these variables.

Definition

Transformational leadership is defined as a leadership approach that causes change in individuals and social systems. In its ideal form, it creates valuable and positive change in the

followers with the end goal of developing followers into leaders. Enacted in its authentic form, transformational leadership enhances the motivation, morale and performance of followers through a variety of mechanisms. These include connecting the follower's sense of identity and self to the mission and the collective identity of the organization; being a role model for followers that inspires them; challenging followers to take greater ownership for their work, and understanding the strengths and weaknesses of followers, so the leader can align followers with tasks that optimize their performance.

Development of Concepts

1. Individualized Consideration

The degree to which the leader attends to each follower's needs, acts as a mentor or coach to the follower and listens to the follower's concerns and needs. The leader gives empathy and support, keeps communication open and places challenges before the followers. This also encompasses the need for respect and celebrates the individual contribution that each follower can make to the team. The followers have a will and aspirations for self development and have intrinsic motivation for their tasks.

2. Intellectual Stimulation

The degree, to which the leader challenges assumptions, takes risks and solicits followers' ideas. Leaders with this style stimulate and encourage creativity in their followers. They nurture and develop people who think independently. For such a leader, learning is a value and unexpected situations are seen as opportunities to learn. The followers ask questions, think deeply about things and figure out better ways to execute their tasks.

3. Inspirational Motivation

The degree to which the leader articulates a vision that is appealing and inspiring to followers. Leaders with inspirational motivation challenge followers with high standards, communicate optimism about future goals, and provide meaning for the task at hand. Followers need to have a strong sense of purpose if they are to be motivated to act. Purpose and meaning provide the energy that drives a group forward The visionary aspects of leadership are supported by communication skills that make the vision understandable, precise, powerful and engaging. The followers are willing to invest more effort in their tasks; they are encouraged and optimistic about the future and believe in their abilities.

4. Idealized Influence

Provides a role model for high ethical behavior, instills pride, gains respect and trust. As a development tool, transformational leadership has spread already in all sectors of western societies, including governmental organizations. As an example, the Finnish Defense Forces is using widely Deep Lead© Model as basic solution of its leadership training and development. The Deep Lead© Model is based on the theory of transformational leadership.

Methodology

The objectives of this Study

- To measure the leadership qualities of team leaders employees working in a IT companies
- To understand the factors with which these employees exert influence on team members of every organization
- To measure the team members satisfaction with regard to their respective team leader or respective of peer group and top level employee

Scope

The scope of this study is limited to team leaders working for software companies located in Hyderabad and Secunderabad.

Sample List

For the purpose of this a sample list was prepared in consultation with faculty members and people working in the IT industry. Companies in the sample list consist: Wipro TCS, Infosys, V SOURCE, InfoTech etc.,

Sample Method

Sampling method used for this study is convenient sample. A request letter was sent to all the companies listed in the sample list. However, with reference I received acceptance form few software companies. Hence questionnaires were administered based on the all employees in different software companies.

Sample Size

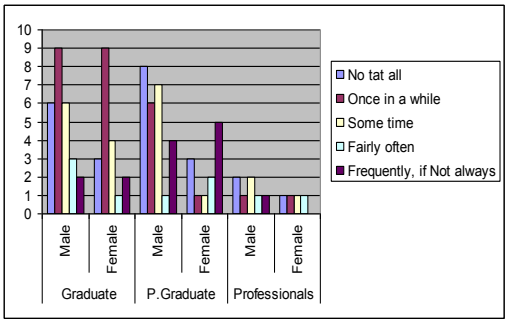
In all 150 questionnaires were administered to the employees in every organization and team leaders working in all companies. Questionnaire was given to the employees at all levels and Team leaders and I asked them to fill the questionnaire. As per the instructions of the all companies HR managers with different companies collection box was kept in the premises of the all areas of the companies to enable the employees and team leaders to drop the questionnaires. After three days I personally went to all the companies to collect the questionnaires. Of the 150 questionnaires, 129 were returned. These questionnaires were removed from further analysis. Finally, 94 questionnaires were found usable with usable response rate of (63%)

Data Analysis and Interpretation

I Make Others Feel Good to be Around me

		Not at all		Once in a while		Some time		Fairly often		Frequently, if Not always			
			%		%		%		%		%	Total	%
Graduate	Male	6	26.09	9	33.33	6	28.57	3	33.33	2	14.29	26	27.66
	Female	3	13.04	9	33.33	4	19.05	1	11.11	2	14.29	19	20.21
P.Graduate	Male	8	34.78	6	22.22	7	33.33	1	11.11	4	28.57	26	27.66
	Female	3	13.04	1	3.70	1	4.76	2	22.22	5	35.71	12	12.77
Professionals	Male	2	8.70	1	3.70	2	9.52	1	11.11	1	7014	7	7.44

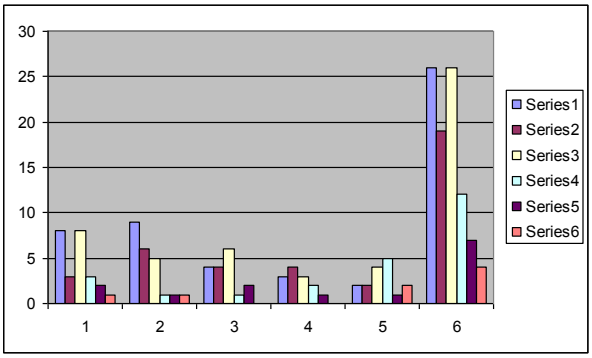
	Female	1	4.35	1	3.70	1	4.76	1	11.11	0	0.00	4	4.26
		23	100.00	27	100.00	21	100.00	9	100.00	14	100.00	94	100.00
Total		23		27		21		9		14		94	100.00



From the above table it is evident that most o f male and female in graduates are providing Feel good environment for their employee once in awhile. Among all of them graduates reasonable providing fairly good situation and professional females are not at all making feel good around their employee.

I Express with a Few Simple Words What We could and Should do

		Not at all		Once in a while		Some time		Fairly often		Frequently, if Not always			
			%		%		%		%		%	Total	%
Graduate	Male	8	32.00	9	39.13	4	23.53	3	23.08	2	12.50	26	27.66
	Female	3	12.00	6	26.09	4	23.53	4	30.77	2	12.50	19	20.21
P.Graduate	Male	8	32.00	5	21.74	6	35.29	3	23.08	4	25.00	26	27.66
	Female	3	12.00	1	4.35	1	5.88	2	15.38	5	31.25	12	12.77
Professionals	Male	2	8.00	1	4.35	2	11.76	1	7.69	1	6.25	7	7.44
	Female	1	4.00	1	4.35	0	0.00	0	0.00	2	12.50	4	4.26
													100.00
Total		25	100.00	23	100.00	17	100.00	13	100.00	16	100.00	94	100.00



From the above table it is apparent that the most of male and female in graduates are express their words about work have do once in awhile. Among all of them graduates reasonably express few simple words about their work and professional females are having least to express words in simple.

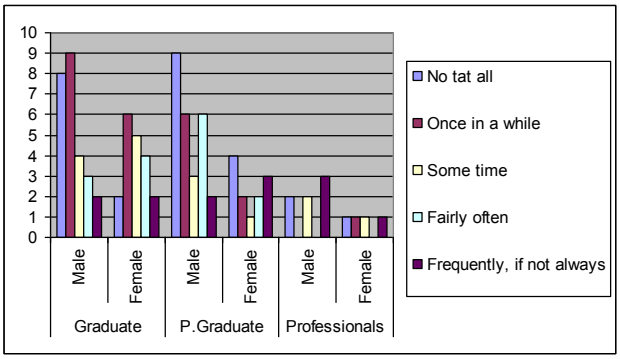
Demographic Information

Qualification		Graduates	%	Post Graduates	%	Professionals	%	Total	%	Total	%
< 20	Male	8	17.78	6	15.79	1	9.09	15	15.96		
	Female	4	8.89	3	7.89	1	9.09	8	8.51	23	24.4
20 – 25	Male	7	15.56	10	26.32	1	9.09	18	19.15		
	Female	5	11.11	2	5.26	2	18.18	9	9.57	27	28.7
25 – 30	Male	6	13.33	7	18.42	2	18.18	15	15.96		
	Female	4	8.89	2	5.26	0	0.00	6	6.38	21	22.3
30 – 35	Male	2	4.44	2	5.26	1	9.09	5	5.32		
	Female	3	6.67	1	2.63	0	0.00	4	4.26	9	9.5

>35	Male	3	6.67	1	2.63	2	18.18	6	6.38		
	Female	3	6.67	4	10.53	1	9.09	8	8.51	14	14.8
Total		**45**	**100.00**	**38**	**100.00**	**11**	**100.00**	**94**	**100.00**	**94**	**100.00**

I Help Others Develop Them Selves.

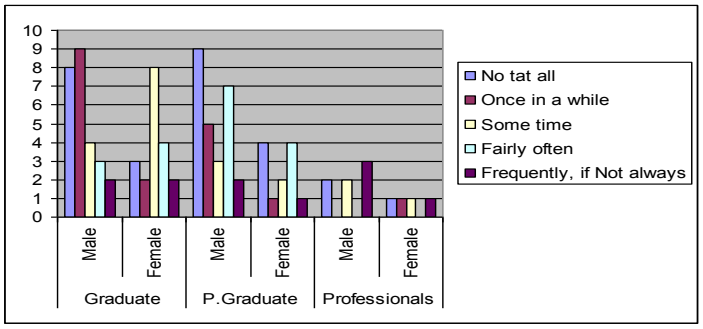
		Not at all		Once in a while		Some time		Fairly often		Frequently, if not always			
			%		%		%		%		%	Total	%
Graduate	Male	8	30.77	9	37.50	4	25.00	3	20.00	2	15.38	26	27.66
	Female	2	7.69	6	25.00	5	31.25	4	26.27	2	15.38	19	20.21
P.Graduate	Male	9	34.62	6	25.00	3	18.75	6	40.00	2	15.38	26	27.66
	Female	4	15.38	2	8.33	1	6.25	2	13.33	3	23.08	12	12.77
Professionals	Male	2	7.69	0	0.00	2	12.50	0	0.00	3	23.08	7	7.44
	Female	1	3.85	1	4.17	1	6.25	0	0.00	1	7.69	4	4.26
													100.00
Total		**26**	**100.00**	**24**	**100.00**	**16**	**100.00**	**15**	**100.00**	**13**	**100.00**	**94**	**100.00**



From the above table most of male graduates once in a while help their co – worker the most of female p. g holders are not helping their co-worker once in awhile. Among all of them graduates reasonably helping his co-worker and professional females are not at all helping to their employee.

I Tell Others What to do if They Want to be Rewarded for their Work

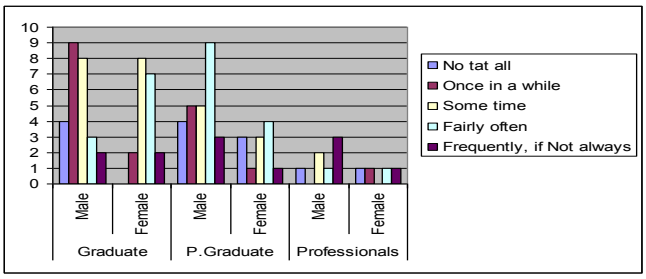
		Not at all		Once in a while		Some time		Fairly often		Frequently, if Not always			
			%		%		%		%		%	Total	%
Graduate	Male	8	29.63	9	50.00	4	20.00	3	16.67	2	18.18	26	27.66
	Female	3	11.11	2	11.11	8	40.00	4	22.22	2	18.18	19	20.2
P.Graduate	Male	9	33.33	5	27.78	3	15.00	7	38.89	2	18.18	26	27.66
	Female	4	14.81	1	5.56	2	10.00	4	22.22	1	9.09	12	12.77
Professionals	Male	2	7.41	0	0.00	2	10.00	0	0.00	3	27.27	7	7.44
	Female	1	3.70	1	5.56	1	5.00	0	0.00	1	9.09	4	4.26
Total		**27**	**100.00**	**18**	**100.00**	**20**	**100.00**	**18**	**100.00**	**11**	**100.00**	**94**	**100.00**



From following table indicates that most of male graduates and p. g are once in while helping their team member to get rewarded and also most of female p. g helping their worker to get rewarded; most of the male p. g is not giving any help to their team members to get benefited.

I am Satisfied When Others Meet Agreed upon Standards.

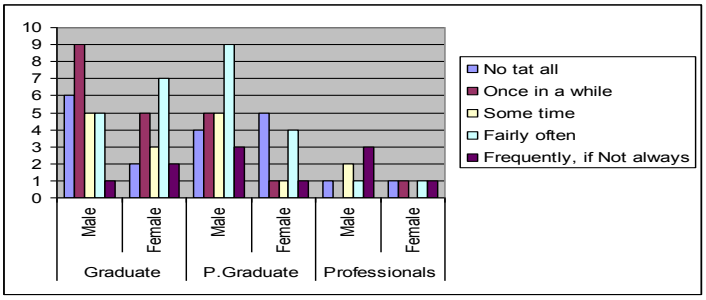
		Not at all		Once in a while		Some time		Fairly often		Frequently, if Not always			
			%		%		%		%		%	Total	%
Graduate	Male	4	30.77	9	50.00	8	30.77	3	12.00	2	16.67	26	27.66
	Female	0	0.00	2	11.11	8	30.77	7	28.00	2	16.67	19	20.2
P.Graduate	Male	4	30.77	5	27.78	5	19.23	9	36.00	3	25.00	26	27.66
	Female	3	23.08	1	5.56	3	11.54	4	16.00	1	8.33	12	12.77
Professionals	Male	1	7.69	0	0.00	2	7.69	1	4.00	3	25.00	7	7.44
	Female	1	7.69	1	5.56	0	0.00	1	4.00	1	8.33	4	4.26
Total		**13**	**100.00**	**18**	**100.00**	**26**	**100.00**	**25**	**100.00**	**12**	**100.00**	**94**	**100.00**



From the above table most of male graduates once in a while satisfied their co-worker perform the most of female p. g holders are fairly satisfied their co-worker meet their stands. Among all of them graduates reasonably satisfied his co-worker meet agreed upon stands.

I am Content to let Others Continue Working in the Same Ways Always.

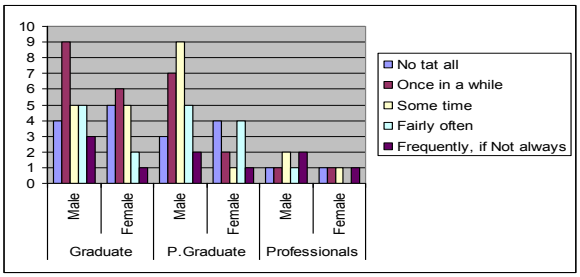
		Not at all		Once in a while		Some time		Fairly often		Frequently, if Not always			
			%		%		%		%		%	Total	%
Graduate	Male	6	31.58	9	42.86	5	31.25	5	18.52	1	9.09	26	27.66
	Female	2	10.53	5	23.81	3	18.75	7	25.93	2	18.18	19	20.2
P.Graduate	Male	4	21.05	5	23.81	5	31.25	9	33.33	3	27.27	26	27.66
	Female	5	26.32	1	4.76	1	6.25	4	14.81	1	9.09	12	12.77
Professionals	Male	1	5.26	0	0.00	2	12.50	1	3.70	3	27.27	7	7.44
	Female	1	5.26	1	4.76	0	0.00	1	3.70	1	9.09	4	4.26
Total		**19**	**10.00**	**21**	**100.00**	**16**	**100.00**	**27**	**100.00**	**11**	**100.00**	**94**	**100.00**



From the above table most of male graduates once in a while content to let others working same ways the most of female post graduates holders fairly often accept others to do work in same way from the female professional's point of view they are not allowed their employee to do work in same way

Provide Recognitions/Rewards when Others Reach their Goals.

		Not at all		Once in a while		Some time		Fairly often		Frequently, if Not always			
			%		%		%		%		%	Total	%
Graduate	Male	4	22.22	9	34.62	5	21.74	5	29.41	3	30.00	26	27.66
	Female	5	27.78	6	23.08	5	21.74	2	11.76	1	10.00	19	20.2
P.Graduate	Male	3	16.67	7	26.92	9	39.13	5	29.41	2	20.00	26	27.66
	Female	4	22.22	2	7.69	1	4.35	4	23.53	1	10.00	12	12.77
Professionals	Male	1	5.56	1	3.85	2	8.70	1	5.88	2	20.00	7	7.44
	Female	1	5.56	1	3.85	1	4.35	0	0.00	1	10.00	4	4.26
Total		**18**	**100.00**	**26**	**100.00**	**23**	**100.00**	**17**	**100.00**	**10**	**100.00**	**94**	**100.00**



From the above table it is apparent that the most of male and female in graduates are express their words about work they have do once in awhile. Among all of them graduates reasonable express few simple words about their work and professional females are having least interest to express words in simple.

Conclusion

- After the data analysis I conclude that majority of the graduates males and females hold subordinates, trust, maintain their faith and respect, show dedication to them appeal to their hopes and dreams.
- After the analysis it can be interpreted that (44%) of the total female post graduates use appropriate
  Symbols and images to help others focus on their work, and try to to make others feel their work
  Significant.
- Majority of the graduates(33%) are agreed to make others feel good around them once in a while.
- I found that majority of the graduates leaders do not fell emotional attachment to their department that means they are not emotionally involved in their department.
- I conclude that most of professional male shows the degree to which u will tell others what to do in order to be rewarded, emphasize expectation from their team member.
- I conclude that professional leaders are let others do work in their own style.
- Most of the leaders show interest in others well-being, assign projects individually, and pay attention to those who seem less involved in the group said they do not feel like part of the family at their department.
- After the data analysis I conclude that most of female leaders providing recognition/rewards when others reach their goals and also provide others with new ways of looking at puzzling things.

- I found that majority of the graduates leaders have complete faith among their group members.
- After the analysis it can be suggests that most of female leader should provide feel good environment among their team members.

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NOISE REDUCTION IN POWDER COATING PLANT THROUGH AQUA SILENCER

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Abstract

This paper chiefly centers around the lessening of commotion level in assembling region of paint industry. Noise control has after some time ended up being substantially more in fact upgraded and powerful. Amid the study of various paint producing territory of plant at one of the paint business in Bangalore the real noise source was from powder covering plant, estimating the commotion level came to know it had higher than the admissible level of industry which influenced the administrators and in addition the workplace. The conceivable foundations for the commotion are distinguished and noise lessening gadget (water silencer) and other general measures are recommended which will decrease the noise to least.

Introduction

One of the critical issues of noise source is mechanical commotion. The universally handy impact of mechanical noise on the physical state of workers has been a subject of level headed discussion among researchers. These enterprises contain a heaps of gadgets and machines that deliberate as a wellspring of commotion such an engines, compressors, electrical machines, inward burning motors, rotors, cutting machines, boring, pounding, fans and move assets. The commotion level produce depends for the most part on the kind of the noise premise, for example, the sort of gear, separation from the premise to the laborer or earpiece and the idea of the workplace. Accordingly the specialists of hand apparatus mechanical are revealed to the noise levels damage as far as possible. High noise contacts in businesses influences the correspondence among the laborers, as well as prompt the other mental and physiological impacts on the representatives. Our work is to gauge the noise level in the paint fabricating zone by thinking about the distinctive situations and at better places. As indicated by the OSHA norms the allowable presentation restrain for human ear ought not surpass 85dB. In view of our study the noise level estimated by sound level meter is above admissible introduction restrain.

Literature Review

The importance of the relationship between noise at workplace and workers health, particularly hearing loss has been described in previous studies. Lumber and wood, textile, petroleum, utility, metal, print and paper industries were with the highest percentage of

Exposure time (hour)	Limits in dB [A]
8	85
4	93
2	96
1	99
1/2	102
1/8	108
1/32 or less than 2 min	114

workers exposed to noise of 85 dB(*A*) or higher. OSHA rates noise induced hearing loss as one of the work-related problems involving 11 million workers in the USA. According to OSHA standards, Twenty two million labours are exposed to potentially harmful noise at job each year. Last year, U.S trade have paid more than $1.5 million in penalty for not defending workforce from noise .An approximate $242 million is exhausted annually on workforce recompense for hearing disability.

Aim

This paper aims to reduce the overall noise level of the powder coating plant at Akzonobel India Limited.

Objectives

- Study the actual noise level of the machines using noise measuring devices (Sound level meter).
- Analyzing the measured noise level and comparing it with standards to identify the causes for noise.
- Reducing noise level of the powder coating plant by implementing the engineering measures.
- To implement the required measures using damping devices based on standards and comparison.
- To provide safety measures which will help the human resources to work in stress free environment and safely

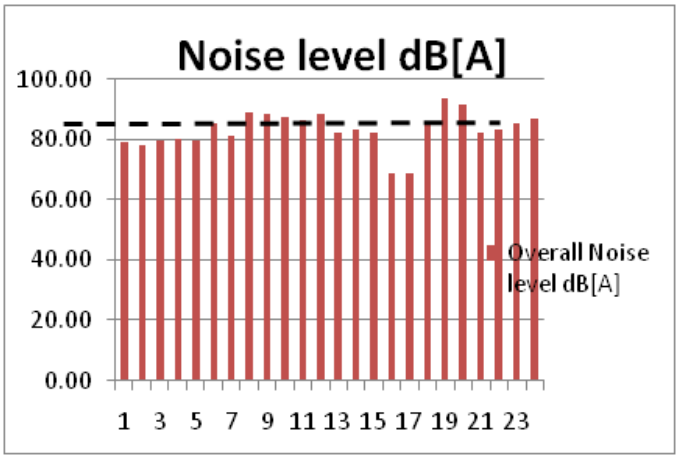
Methodology

Work environment noise influences the human body in different ways. The most surely understood is hearing misfortune; however work in a loud situation likewise can have different impacts. Despite the fact that noise prompted hearing misfortune is chiefly normal word related sickness, it is regularly uncared for on the grounds that there are no perceptible impacts. It more often than not creates over a drawn out stretch of time, and, with the exception of in extremely uncommon cases, there is no torment. What occurs is a dynamic loss of correspondence, socialization, and responsiveness to the earth. In its beginning times (when hearing misfortune is over 2,000 Hz), it influences the capacity to comprehend or segregate discourse. As it advances to the lower frequencies, it starts to influence the capacity to hear sounds by and large. Presentation to elevated amounts of noise can cause changeless hearing misfortune. Neither surgery nor a portable amplifier can enable right this to sort of hearing misfortune.

Variation of Noise Level in Powder Coating Plant

Sl. No.	Location	Min noise dB[A]	Max noise dB[A]	Avg dB[A]	Comments
1	Holding area	78.40	80.10	79.25	Below PEL
2	In front of Dongui mixture 1	76.60	80.30	78.45	Below PEL
3	In front of Dongui mixture 2	77.60	82.50	80.05	Below PEL
4	Dosing station	78.80	82.20	80.50	Below PEL
5	ZSK-43	79.50	80.60	80.05	Below PEL
6	Back of PCS-70	83.00*	87.90*	85.45*	Above PEL*
7	Back of PICKRD	81.10	82.10	81.60	Below PEL
8	In front of PICKRD	88.30*	88.30*	88.30*	Above PEL*
9	Back of FEROLI	85.00*	92.00*	88.50*	Above PEL*
10	In front of FERIOLI	86.80*	88.80*	87.80*	Above PEL*
11	Center of plant	82.00*	90.90*	86.45*	Above PEL*
12	Ground floor under ICM-2	87.10*	90.10*	88.60*	Above PEL*
13	Dust collector 2(Ground floor)	80.00	84.50	82.25	Below PEL
14	Packing line	80.20	86.20	83.20	Below PEL
15	Inside QC lab	68.00	70.00	69.00	Below PEL
16	Inside spray booth	68.00	70.20	69.10	Below PEL
17	Dust collector 3(1st floor)	85.00*	87.30*	86.15*	Above PEL*
18	ICM 3 (1st floor)	92.00*	95.60*	93.80*	Above PEL*
19	ICM 2 (1st floor)	91.00*	92.00*	91.50*	Above PEL*
20	ICM 1 (1st floor)	81.00	83.30	82.15	Below PEL
21	CMT 5(1st floor)	82.50	84.30	83.40	Below PEL
22	ICM 38 (Ground floor)	83.30*	87.80*	85.55*	Above PEL*
23	ICM 38(1st floor)	84.40*	89.20*	86.80*	Above PEL*
24	Charging Hood	78.10	81.20	79.65	Below PEL

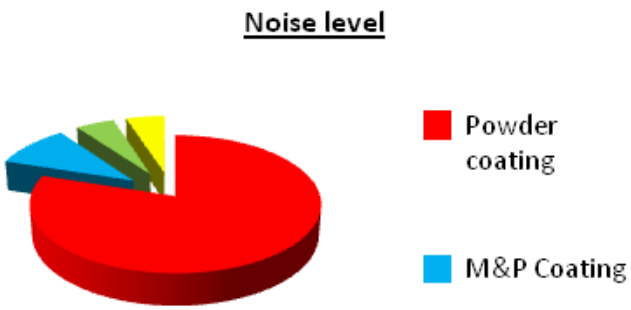
Figure 1 Variation of noise level in powder coating plant



Note

The above chart shows the variation of noise level in Powder Coating Plant. X- axis represent the operator area of specific machines mentioned in the chart: and Y-axis represent the various noise level in dB (A).

Figure 2 Noise level comparison of all the 4 plants



Note

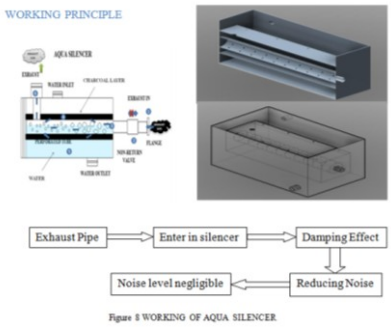
By comparing the Noise level it can be observed from the pie chart that, the maximum noise is from Powder Coating plant. Hence Powder Coating Plant is mainly concentrated for further analysis.

Discussion

After coupling the pipe the noise level was reduced only by 9.4 dB [A]. Hence

Aqua silencer is suggested which helps to reduce more percentage of noise.

An Aqua silencer is used to control the noise. This is mainly due to presence of sprockets in water molecules, which lowers its amplitude and thus, lowers the sound level.



Results

Noise level of Powder Coating after Few Implementation

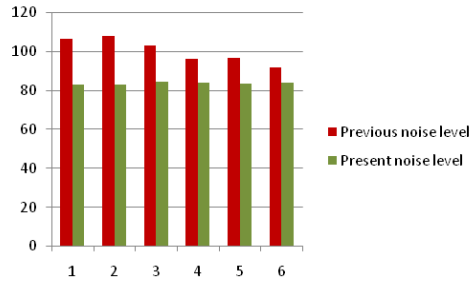
Sl No	Location	Noise(1 Feet)	Noise(3 Feet)	Avg noise	Comments
	(ON 28TH FEB 2017 AT 11:15AM) Full load 2200rpm				
1	CMT 5 under conical feed	92.30	87.00	89.65	Above PEL*
2	CMT 5 (when conical feed closed)	101.90	98.80	100.35	Above PEL*
3	CMT 5 (when square feed closed)	90.00	88.00	89.00	Above PEL*
4	CMT 5 (1st floor)	88.00	89.10	88.55	Above PEL*
5	CMT 5 (near PPS motor)	93.40	90.00	91.70	Above PEL*
6	CMT 5 (operator area)	93.00	91.20	92.10	Above PEL*

Table Noise level of Powder Coating after few implementation

Note Permissible Exposure limit working 8 hrs a day is above standards (85 dB [A])

Comparison of Previous and Present Noise level of CMT machine in Powder Coating Plant

Figure 3 Comparison of Previous and Present Noise level of CMT machine in Powder Coating Plant



Scale

X axis: Various parts of CMT machine

Y axis: Noise level in dB [A] at various places of CMT 5 machine

Conclusion

- This paper has dissected the substance of noise level when rolling out a few improvements and it was seen that there is significant contrast in the level of commotion level, and for encourage more decrease we have recommended few cures which can at present more diminish the noise level at the working spot and make it appropriate for working with calm condition.
- By actualizing successful control measures for noise levels , we can lessen the commotion level at the source and improve the earth put for representatives.
- It is watched that the water silencer is best in decrease of outflow of gases . By utilizing water as a medium, commotion level is diminished.
- The commotion lessening and its compelling control with wellbeing measures makes the workplace safe and calm. vague indistinct

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IMPROVE IN PRODUCTION USING QUALITY TOOLS TO REDUCE THE WASTEAGE OF MILK AND MILK PRODUCTS

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Abstract

This paper was carried out in the quality department of milk company. In order to have a better quality and sustain in market , it is important to maintain the quality and reduce the lead time. During the study one common form of waste that occurred frequently was product defects. It was found that 800 packs were rejected in a shift of 8hr and every 2hours was need to setup the process of packing unit resulted in delay the production. The project aims to improve the industrial production efficiency which is done by layout design and using suitable material handling equipment. The investigation finished up remedial activity designs concentrated on expanding abilities and attention to administrators, institutionalization size of bundling hardware, machine support. Later the usage of lean ideas diminished and dispense with the squanders that happen amid generation process. The proposed changed format gave a simple stream of material, expanding the generation effectiveness. The proposed changed layout gave a easy flow of material, increasing the production efficiency.

Introduction

One of the important step to note in an production unit is the time and waste. Waste can be called to the rejected items that cannot be reused. Milk federation unit process the milk, flavors it then goes to packing stage. 3200000 liters of milk is processes every day. This is an important to note the there will be high risk of wastage or rejection that happens in the industry. Implementation of lean concept would help in to standardize the process to reduce the waste and to decrease the cycle time. Man and automation has to work hand in hand to smooth flow of the system. Milk process takes time of 2hours in UHT treatment (Ultra High Temperature) this processed milk is then added upon the sucrose and flavors to increase the taste. Milk is the passed to packing machine that is automated to pack the tetra pack at correct angle to mark a perfect seal , then the sealed products are labeled manually with the date of manufacture and the codes which are required to distribute. It is then moved to upper shaft flour to inventory.

Literature Survey

(A Chauhan, 2016), as this idea is One of the most important in the middle of quality control is to control and to go after the completion of quality standards at all stage of process flow , in direct to assurance the best possible quality of the products at closing stages through technology advancements.

(Arnold , J. R.T and Stepea , 2004) material management techniques that helps to reduce the time required for the production and increase the productivity .

Ziegler, GR and Floros, JD,. 2008 effect of sucrose on physical properties of milk and milk products. This finds the importance of processing and effects of the contents in it. To summarize the study concluded remedial action plans focused on corrective methods like training, material handling technique, proper planning, and improved mechanism.

Aim

To reduce the amount of milk wasted, improve material flow and increase total productivity at the Ultra High Temperature Tetra packing facility at KMF.

Methodology

Early stage in this research comprise explore steps in the production problems. The data was collected previously in support of KPIs (Key Performance Indicators) such as breakdown of production machinery, machine parameter data, operational records documents, operator check sheet, and consumer complaints. The data was also collected from direct observations in the field. Discussions by conducting brainstorming sessions were held to identify losses due to reprocessing products, decreased productivity due to the addition of labour used to cut the bag, utility costs, and the possibility of contamination because of handling.

The next stage is to collect data on sealing failure. The total weights per shift and per type of product (preliminary data) were converted into the number of pouches or sachets. Other data was collected from the total counter in the filling machine. From all the data, it could be calculated the percentage of sealing failure in relation to the quantity of output. Product specification data and the use of semi-finished products were also collected from Online Reporting System of FFI. Filling machine breakdown data was obtained from the records on Online Reporting System.

The third stage is data processing and analysis. Data processing was conducted using quality tools (Rao, 1996) such as the pie chart and bar charts, run charts, cause and effect diagram (Fish Bone), and flow charts. The data scrutiny is focused on the quantity of sealing failure, product specification data and filling machine breakdown. The analyses were conducted to determine sources of high value sealing failure.

On a Count for a Day of Reject

2 shifts carry out for 8 hr. per shift

For every 2 hr. one roll gets over

Area of sheet per pack

10mm * 15 mm = 150

For 16 hr. a day =80*8=640 packs

For testing

That includes seal test , ink injection

test 100 packs are taken as testing

Total failure pops up to about 740 to 800 packs per day

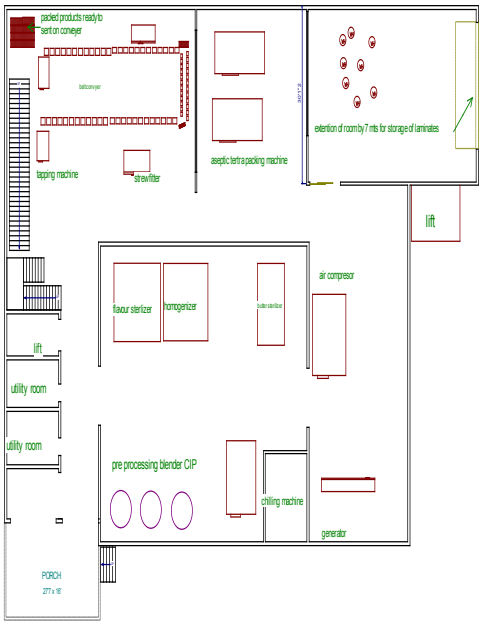
Every pack cost an about Rs.20

That makes an avg. of Rs.16000 as an indication of loss.

- Cleanliness and sharpness of the sealer knife pouch
- Lack of concern by the operators
- No adequate work instructions.
- Certain production line characteristics
- Product size variations on the production line that occur very often in changeover.
- Variations of the intermediate product specifications
- Characteristics of some intermediate product with a very fine particles.
- Standardization of empty pouch space in each product size

Proposed Layout

Payback Estimation



Since the sum of all the loses which is being approximately estimated due to inadequate storage place and also due to ineffective method involved in the process of material flow and process of packaging is observed as 4.8 lakhs 5 lakhs and per month. Hence in order to minimize the loses ,man labor costs and scrap rate and in turn increase the profit by easy flow of materials throughout the plant and in the exterior environment, the implementation of equipment are required; The total initial and setup costs, maintenance and operating costs are shown below:

1. **Lift**
   Cost of lift: 7.5 lakhs
   Maintenance cost:1500/month
   Service life of the lift:2 years
2. **Conveyor**
   Cost of conveyor: Rs.85,000
   Maintenance of conveyor: 200/month
   Service life : 4 years
3. **Strapping Machine**
   Cost of machine: Rs.20,000
   Maintenance cost: <150/ month
   Service life: 2 years
4. **Extension of Storage Section**
   Cost per square feet= Rs.300/-

Payback of all the infrastructural improvements undertaken to improve the material flow and the methodology involved in smooth running of the process in UHT. The office is worried about finding the most effective course of action of individual offices with unequal region

prerequisite inside a machine or office. The goal of office design is to limit the material dealing with cost and time inside an office subjected to set of requirements. These requirements incorporate.

1. Department ought not cover.
2. All division must be situated inside the office.
3. Location of office is pre settled to handling succession.
4. Some segments are not permitted to leave put connecting particular areas.
5. Floor stacking
6. Floor to roof tallness in multi-floor office.

With increasingly diverse demand in production the most of the of the manufactures are using mixed production assembly line (MAPL's). The plan of the sequential construction system needs to consider this advancement. A MPAL is a generation line fit for delivering a wide range of item all the while and ceaselessly. Stations are sufficiently adaptable to play out their separate errand on various assortments

Results and Conclusion

- Using quality tools we found that there is a defect in sealing failure for this knife alignment is needed regularly and sealing machine is recommended for flow of continuous packing roll.
- With proposed layout there is increase of efficiency in production and working space.
- Lead time is reduced and efficiency of 30% is achieved without a delay of time which was 2 hours before.
- Automation in the system has made the things much easier with less of man power.

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IMPLEMENTATION OF LEAN MANUFACTURING PRACTICES TO ACHIEVE PROGRESSIVE DEVELOPMENT IN AUTOMOBILE INDUSTRIES

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Abstract

This paper effort to focus on importance of lean manufacturing practices development in automobile industries. The key to achieve progressive development in automobile industry lies in the customer satisfaction through improved quality, best cost, optimum delivery lead times and appropriate communication. Lean philosophies help to identify and eliminate waste at every stage of operations in a systematic approach. The demand for automobiles has escalated drastically in last few decades in India. Many global automobile manufacturers have already set up research, development and manufacturing facilities in India. Lean practices to fulfil the demand of these customers. UNIDO has taken dedicated approach in association with the Government of India to assist Indian SMEs in various clusters since 1999 to make them globally competitive.
This paper describes some learning from the literature and actual practices indifferent countries.

Introduction

The Toyota Production System was developed in Japan by Ohno and Shingo in 1940s and forms the basis of lean manufacturing (Herron et al., 2008).The mass production system existed in USA could not affordable by Toyota, so they focused on minimizing waste in all aspects of its operation by using many techniques and tools including Kaizen, cellular manufacturing, poka- yoke, etc(Herron et al., 2008).The Toyota Production System has been perceived to be a major rationale for Japan's competitive success. (Yadav et al., 2010).The past decades has evidenced the decline of mass manufacturing system.

Lean manufacturing has been accepted as a new paradigm that eliminates waste in any form, anywhere and at any time, relentlessly strives to maintain euphony in the flow of materials and Information, continually attempts to attain perfection (Yadav et al., 2010). Lean production is broadly classified under the umbrella of process improvement programs, which also include other approaches such as business process re-engineering, theory of constraints and total productive maintenance (Shah et al., 2008). The term "lean" invented by Krafcik to refer to a manufacturing approach that uses fewer of everything. It reduces the human effort in the shop floor, half the manufacturing space, reduce the investment in tools, and reduce the engineering hours to develop a new product in optimum time. Also it mitigates inventory on site, which results hardly any defects, and produces a greater and ever growing variety of products. The objective of this paper is to report the learning from the lean implementation practices in automobile companies. This paper also explains the fundamental principles of lean concepts developed by various researchers over the years.

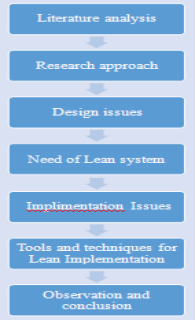
Learning from Literature

- The lean manufacturing concept, rooted in the TPS, is an evolution of a 5-year research project that was carried out by the International Motor Vehicle

- Programme at MIT involving 55 researchers worldwide. The project began with an aim to assess the impact of management practices on manufacturing performance, particularly productivity performance around the world (Krafcik, 1988; McDuffie, 1989; McDuffie, 1991). This research programme set side by side the performance of other car assembly plants around the world. The main findings of these researches are summarize in the book "The Machine That Changed the World"(Womack et al., 1990).
- The IMVP showed that the car assemblers who demonstrated the highest productivity and quality were based in Japan. The findings of Womack et al. (1990) were further reinforced by studies carried out by the Andersen Consulting (1993) group and IBM Consulting Group (1993). Oliver et al. (1994) further provided evidence from 18 automotive component plants manufacturing four different product types. Five of these 18 plants displayed high performance on the measures of both productivity and quality. These five 'world class plants' are all located in Japan and showed consistent superior performance on a number of measures providing support for their lean production system.
- The inability of US manufactures to imitate lean manufacturing approach and failure to match Toyota's performance prompted a new generation of researchers to do in-depth study of the TPS in order to decode and uncover the secrets of success.
- In terms of Product Development (PD) process, Toyota has been successful in achieving a smooth integration as well as process flexibility while maintaining functionally based organisation. While their tools are not different from other competitors, Toyota's success lies in the way they implement these tools. For example, Toyota relies on highly formalised rules and standards, and puts limits on the use of cross-functional teams.
- Womack and Jones (1996) proposed a set of five principles (value, value stream, flow, pull and perfection) for achieving a lean enterprise. These principles encompass all activities of a manufacturing chain right from the product design stage through order delivery.
- Interestingly, many of lean tools and practices are actually similar to those that US companies employed during their manufacturing prime and, in fact, Toyota imported these ideas from USA only and put them into practice. However, the insight that Toyota applies underlying principles rather than specific tools and processes explains why the company continues to outperform its competitors.
- The secret of Toyota's success lies in its adherence to fundamental principles of Industrial Engineering supported by actionable rules, operational innovations and continuous pursuit for perfection.

Methodology

Research Approach



- The main aim of this study is to first collect information on fundamental lean principles and then investigate the level of lean implementation in the automotive industry.
- The first step of my research was to conduct a comprehensive literature survey in order to identify and summarise the publicly available information on the fundamental lean principles.
- On the basis of literature review and observation few fundamental lean principles were identified for further investigation of lean implementation status.
- The study was mainly restricted to the automotive industry. The target population for this study was large and medium size auto manufacturing companies

Lean Manufacturing System Design Issues

- It has been observed that, while Lean Manufacturing is delivering competitive advantage to organizations as a change and improvement strategy it has not been successfully implemented in Indian industries at large. Most published work provides significant proofs of implementation of LMS in west, but Indian cases are very few.
- The philosophy of lean is not new to Indian Industries as but they fail gain sustainable development through proper implementation of LMS.

Need of Lean System

Through the literature survey from different researches, we perceived few rationale behind the need.

Fig.1 Lean Model

A Lean Model is presented in following Figure 1 and the related issues discussed in detail to have a clear idea about the tools and techniques.

Lean Implementation Issues

Through literature survey the following issues were considered necessary for the implementation lean manufacturing system.

1. **Lead Time Reduction:** Lead time is the time between the starting of any process and the completion of that process. Smaller lead times are necessary to allow operators and suppliers to adjust to changed schedules.
2. **Inventory Reduction:** Inventory is defined as stock of items maintained by an organization to meet the ever changing internal and external customer's demand. The high cost of inventory has forced organizations to find ways to develop efficient and effective supply chain management and quality management.
3. **Worker's participation:** Niepce and Molleman (1996) describe that workers play a central role in LMS. Katyama& Bennett (1996) explained that flexible machines are expensive and lead to high fixed costs. Use of manual operations can make productions systems both flexible and adaptable.
4. **Quality improvement:** The improvements are varied: refinement of manual operations to eliminate wasted motion, introduction of new equipment's to avoid the uneconomical use of manpower and improved economy in the use of materials and supplies.
5. **Less breakdown maintenance:** One of the reasons for existence of inventory is downtime of machines. It can be minimized through preventive maintenance. Preventive maintenance and lower defects are needed to achieve lower safety stocks.
6. **Customer Satisfaction:** Parsuraman et al. (1991) described that response time, reliability, tangibles, assurance of quality; concerns are few of the important attributes of customer satisfaction in service industry. Lean philosophy consumption provides the full value to a customer whom he desires from the product and services, with the accidents the product is produced safely and properly.
   - Housekeeping is about cleanliness, keeping work areas neat and orderly and maintaining work space.
   - The proper layout of the workplace focuses on arrangements of equipment and the adequacy of storage facilities. Effective housekeeping is an ongoing operation.

7. Vendor development: A supply chain works well if its company's incentives are aligned- that is if the risks, costs, and rewards of doing business are distributed fairly across the network. JIT requires a work culture where suppliers can become the same interest group by way of having long term.
8. Housekeeping& Material handling: Effective housekeeping is necessary to eliminate workplace problems and

Tools and Techniques for Implementation of LMS

The tools and techniques which are important for the successful implementation of LMS as listed in the following: Value Steam Mapping greatest efficiency and leastpain.

Fig2:- tools for implementation of LMS

- **Value steam mapping / Waste reduction:** It is a lean management method for analysing the current statand designing a future state for the series of events that take a product or service from its beginning through to the customer.
- **5 S:** The 5 S's is the first step of lean thinking:
  1. Sort - separate out all things that are unnecessary and eliminate them.
  2. Set in order - arrange essential things in order for easy access.
  3. Shine - keep machines and work areas clean.
  4. Standardize -make cleaning and checking a routine practice.
  5. Sustain - make the 5 S's a way of life.
- **Kaizen:** The continuous implementation of smaller improvement activities is the principle behind "Kaizen" an activity employed by many Japanese companies. Kaizen or 5 S is a methodused to diminish the Muda i.e. waste in Japanese (waste of manpower, outputs, money, space,time, information etc).
- **Poka Yoke (Mistake Proofing) -** Poka Yoke is a simple devices that prevent defective parts from being made or passed into the process. Poka-Yoke eliminates defects by eliminating mistakes.
- **One piece flow / Pull system:** One- piece-flow / Pull system is based on the concept of minimizing work-in-process by having operators throughout the process focus on making only one part at a time before starting the next part. That is, make-one, move-one. One-piece-flow dramatically reduces handling and transportation and provides immediate feedback to any overlooked defect (Sekine, 1992).
- **Total Productive Maintenance (TPM):** TPM practices of preventive maintenance with the concepts of total quality control and total employee involvement. TPM is a company-wide equipment maintenance program that covers the entire equipment life cycle and requires participation by every employee. A key element of TPM is autonomous maintenance where the operators are responsible for maintaining their own equipment.

Barriers of Lean Manufacturing

From literature survey following are the few barriers which has been observed in lean implementation.

- Lack of planning: If lean has to implement on one particular day and it is being implemented on some other day, then it is just not a barrier, but it is recipe to disaster.
- Training: Training goes hand in hand with planning and if there is insufficient training then workforce will not be able to follow up the process and no one will fully understand it, so training is one of the most important pillar in lean implementation.

- iii. Root and branch philosophy: Lean has to be a root and branch philosophy. That means people have to live and breathe lean. If it is implemented in a piecemealfashion or in certain parts of an organization only, then it will face barriers. All the parts of the organization, including the administrative and supportive sections need to adopt lean.

Observations and Conclusion

Research shows that the organisations, automotive industry, there had been a tremendous amount of interest in understanding the inner working of the TPS. These organisations are striving hard to imitate the Toyota system but with little success. Their initial efforts showed reasonable improvement in organisation's performance. However, they have not been able to maintain similar performance consistently and have failed to achieve further improvement. Many companies seemed to be looking for a gradual improvement method that, if properly executed, would improve organizational performance many folds.

The lean principles are not steps, prescriptions, or recipes. Rather, these principles are building blocks – essential elements of any system, which need to be seamlessly integrated into whole system and rooted in the culture of the organisation. The lean principles identified by various researchers, if understood and implemented with dedication along with other tools and techniques, will enable any company to replicate Toyota's performance and even challenge Toyota. It is important to emphasise here that efforts to implement any one lean principle alone would accomplish little, but every principle has its own role and at the same time reinforces others. Managers and supervisors need to play role of facilitator (teacher and coach), get involved in problem-solving projects.

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IMPACT OF CONSUMER DELIGHT ON THE SALE OF JEWELLERY PRODUCTS: A STUDY

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Abstract
Whether the buyer is satisfied with purchase depends on the offer is in relation to the buyer's expectations. In general delight is a person's feelings of pleasure or disappointment resulting from comparing products perceived performance (or outcome) in relation to his expectations of the customer is satisfied. If the performance exceeds expectations, the customer is highly satisfied and delighted.
***Keywords**: Customer Delight, Jewelers, sale and Product*

Introduction

It is accepted that high quality is a measure of excellence taken from the customers point of view, then although produces may grade their goods in terms of quality, whether the producers view of the grading is uphold will depend on customers perception. If the customer like their strawberries to be large, firm, red and sweet, then the fruit with these characteristics will considered to be of the highest quality and the producers of smaller, paler strawberries may not be able to convinced customers of the high quality of their output, however, sweet they may have taste.

The focus on the customer means that quality is conceptualized in terms of the customer's perceptions. The organization objectives are to identify customer requirements, so that both the customers and the organizations needs are met. It is also the intention to meet these requirements first time and thus avoid the call of sorting out problems.

According to Retar Drucker, "Business is nothing but of innovation and marketing". Marketing is very important function of business centered on the need of consumers. As highly competitive in nature business makes the consumers as king. Innovation is a tool that finds ways to makes the product sole. Innovation and marketing together makes yester luxuries into today's necessities.

Men, women and children in every part of the world wear jewels in various forms in almost every human culture, on every inhabited continent the world jewelers is derived from the world "Jewel" which was anglicized from the old French "Jouel" in around the 13 century. Over the years, gold has had a place in society giving in the allure of wealth and power. Emperors and kings wore gold in various ways and used golden objects to show their wealth and position in the society.

Importance of Customer Delight in the Jewelers Business

The need to customer for successes in any commercial enterprise is very obvious this income of all commercial enterprise is divided from the payment received for the product supplied to its external customers. If they are no customer is no income and there is no business.

In other word the customer is the sole reason for the existence of commercial establishment. Thus the core activity and perhaps are of the most important activities of any company is to attract and retain customer. It therefore no surprise that peter ducker said, "To satisfy the customer is the mission and purpose of very business". Initially customer can be attracted by advertisement or through other effort like sales personal and this may make the buyer to buy the product or services. If the customer are satisfied with the product or the service offered, they continue to buy it and remain loyal to the product, if on the other hand are not satisfied they will not buy again. This establishes the need for and the print importance of customer of customer delight.

Consumer Expectation

Consumer expectation generally refers to the needs and wants of individuals in the economic marketplace. Such expectations are usually driven by people's preconceived ideas regarding goods or services. These ideas drive consumers to purchase one item over another or avoid companies with which they've had a previous bad experience. Consumers may also have high expectations for new products that have been given a lot of exposure through professional reviews or other media commentary.

Marketing strategies often focus on consumer expectations in order to influence the purchase decisions made by consumers. Consumers can be broken down into three groups: those who are expected to buy, those who are not expected to buy, and those who are undecided about making a purchase. Businesses often focus on the latter two groups in order to persuade them to purchase their products.

Negative consumer expectations are an important focus for marketing strategies, because companies may need to dispel rumors or bad impressions about their goods or services. These may be spread by competitors or individuals who have had a previous poor experience with the company. Since such rumors can lower consumer expectations, marketing strategies must address them and focus on correcting consumer expectations regarding a company's products.

Conclusion

The purchasing of gold jewellery is very important one in our culture. This study mainly focuses on the buying behavior of the consumers towards gold jewellery products. Each and every consumer is having different taste of buying the gold jewellery products. According to the consumers' psychology, the gold jewellery purchasing should be fulfilled by the shop owners. Presently the buying of gold jewellery has increased even though the rate of gold jewellery products has widely fluctuated. So, the consumers are giving more importance on gold jewellery for every occasion in their life. Thus, the gold jewellery retailers has to understand the various type of buying behavior of the consumers towards gold jewellery products and has to satisfied their needs.

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SIMULATION OF PERT NETWORK AND IT'S VALIDATION

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Abstract

The Pert Technique is a statistical way of representing project milestones as a network diagram. It predicts project completion times putting into consideration, the risk of uncertainty. It allows the project manager who is often responsible for scheduling, and coordinating a series of complex tasks and activities, the ability to monitor the progress of a project. Prior to the commencement of any project, it is important that the project team have an idea of how long it would take to execute the project. This is essential because it makes sure that the project manager knows exactly how long it would take to get the project completed and so can factor that in when deciding on a budget for the project. The objective of this study is to calculate the critical path time for PERT (Program Evaluation and Review Technique) networks. An attempt was made to construct the network in ARENA Simulation Software and the model obtained was compared by manually solving it and results obtained from other software packages like STORM, LINGO.

Keywords: *Simulation modeling, ARENA Simulation Software, PERT, LINGO, STORM, Stochastic model, Project Scheduling.*

Introduction

PERT - Program Evaluation and Review Technique

Program Evaluation and Review Techniques is commonly abbreviated to PERT [2]. PERT is a method of analyzing the tasks involved in completing a given project, especially the time needed to complete each task, and to identify the minimum time needed to complete the total project. It incorporates uncertainty by making it possible to schedule a project while not knowing precisely the details and durations of all the activities. It is more of an event-oriented technique rather than start- and completion-oriented, and is used more in projects where time is the major factor rather than cost.

PERT and CPM are complementary tools, because CPM employs one time estimate and one cost estimate for each activity, so they are classified as a deterministic model and PERT may utilize three time estimates (optimistic, expected, and pessimistic) and no costs for each activity and thereby fall under probabilistic models. Three time values are estimated in PERT for time of conducting each activity. Then average and variance of each activity time are calculated using beta distribution function. The mean and standard deviation for activity time can be calculated using the following formulas:

$\mu =$ ————

$\sigma =$ ——— where, to = optimistic time, tm= most probable time, tp = pessimistic time

Simulation

Simulation is the imitation of the operation of a real-world process or system. The act of simulating something first requires that a model be developed; this model represents the key characteristics, behaviors and functions of the selected physical or abstract system or process.

The model represents the system itself, whereas the simulation represents the operation of the system over time. Simulation is a very useful tool to study systems and take necessary actions without disrupting the real world. Informational, organizational and environmental changes can be simulated and the effect of these alternatives on the model's behavior can be observed.

Simulation Models can be classified

- Static or Dynamic
- Deterministic or Stochastic
- Discrete or continuous

The areas of application of simulation include: Manufacturing, public health, transportation system, computer system performance.

Arena Simulation Software

ARENA Simulation Software is a discrete event simulation and automation software developed by system modeling and acquired by Rockwell automation in 2000.It is designed for analysing the impact of changes involving significant and complex redesign associated with supply chain, manufacturing, processes, logistics, distribution, warehousing and service Systems. ARENA Simulation Software provides the maximum flexibility and breadth of application coverage to the model and any desired level of detail and complexity. In ARENA Simulation Software, the user builds an experiment model by placing modules (boxes of different shapes) that represent processes or logic. Connector lines are used to join these modules together and to specify the flow of entities. While modules have specific actions relative to entities, flow, and timing, the precise representation of each module and entity relative to real-life objects is subject. to the modeler. Statistical data, such as cycle time and WIP (work in process) levels, can be recorded and made output as reports.

Simulation Using Arena Simulation Software: Pert

The network shown in *figure (1)* is simulated using ARENA Simulation Software. [2]

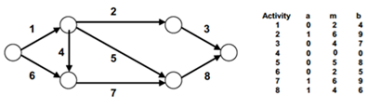

Figure 1 Network Diagram of PERT

The assumptions made for the PERT model are as follows:

1. Arrival of entities follows random exponential distribution.
2. The activities are represented by delay process modules and the type of distribution is triangular for the three times (to, tp, tm).

Method 1

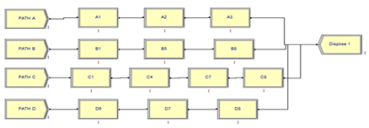

Figure 2 ARENA Simulation Software

This method, as shown in the *figure (2)* is used simulate the PERT network where individual paths are identified. The advantage of this method is that in addition to find the process time we are also able to find the critical path. The dialog box for the PROCESS module is shown in *figure (3).*

The individual paths are: 1-2-3, 1-5-8, 1-4-7-8, 6-7-8. The simulation is run for 10,000 minutes.

Result

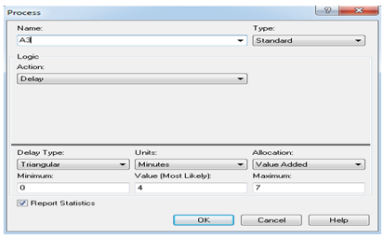

Figure 3: Dialogue box for Process module

Replication ended at time: 10000.0 Minutes

Base Time Units: Minutes

Tally Variables

Identifier Average Half Width Minimum Maximum

Observations

Entity	1.VATime	10.988	.04489	3.3705	18.459
10026					
Entity	1.NVATime	.00000	.00000	.00000	.00000
10026					
Entity	1.WaitTime	.00000	.00000	.00000	.00000
10026					
Entity	1.TranTime	.00000	.00000	.00000	.00000
10026					
Entity	1.OtherTime	.00000	.00000	.00000	.00000
10026					
Entity	1.TotalTime	10.988	.04489	3.3705	18.459
10026					
Entity	2.VATime	9.9901	.04044	2.7814	16.007
9821					
Entity	2.NVATime	.00000	.00000	.00000	.00000
9821					
Entity	2.WaitTime	.00000	.00000	.00000	.00000
9821					
Entity	2.TranTime	.00000	.00000	.00000	.00000
9821					
Entity	2.OtherTime	.00000	.00000	.00000	.00000
9821					
Entity	2.TotalTime	9.9901	.04044	2.7814	16.007
9821					
Entity	3.VATime	11.017	.04848	3.5440	17.423
9818					
Entity	3.NVATime	.00000	.00000	.00000	.00000
9818					
Entity	3.WaitTime	.00000	.00000	.00000	.00000
9818					
Entity	3.TranTime	.00000	.00000	.00000	.00000
9818					
Entity	3.OtherTime	.00000	.00000	.00000	.00000
9818					
Entity	3.TotalTime	11.017	.04848	3.5440	17.423
9818					

Entity 4.VATime	11.336	.04820	3.8880	18.740
10032				
Entity 4.NVATime	.00000	.00000	.00000	.00000
10032				
Entity 4.WaitTime	.00000	.00000	.00000	.00000
10032				
Entity 4.TranTime	.00000	.00000	.00000	.00000
10032				
Entity 4.OtherTime	.00000	.00000	.00000	.00000
10032				
Entity 4.TotalTime	11.336	.04820	3.8880	18.740
10032				

From the SIMAN summary, we can identify the highest time in entity 4 of 11.336 minutes. Therefore the critical path is 6-7-8 and the critical time is 11.336.

Method 2 The simulation model for method 2 is shown in *figure (4).*

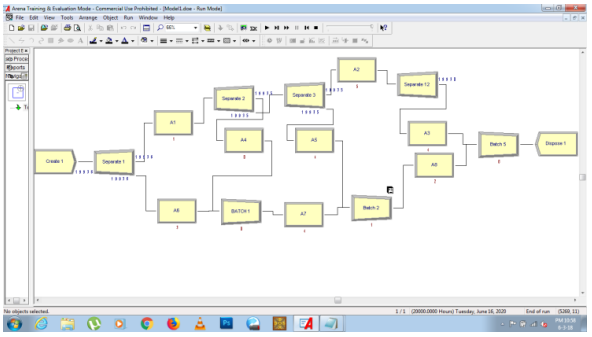

Figure 4 Network Diagram of PERT

In this method, as seen in *figure (4)* SEPARATE and BATCH modules are used to design the network. The separate template module is used to either copy an incoming entity into multiple entities or to split a previously batched entity. The batch module template is intended as the grouping mechanism within the simulation model. The entities arriving

at the batch module are placed in a queue until the required number of entities has been accumulated. The dialogue boxes for separate and batch modules are shown in *figure (5)*.

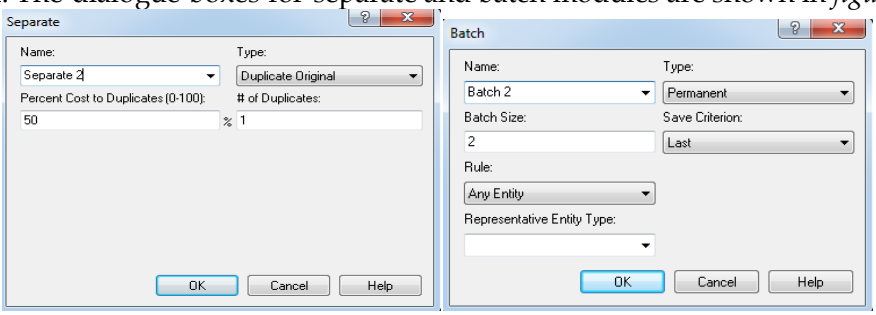

Figure 5 Dialogue Boxes for Separate and Batch Modules

The above simulation is run for 10,000 minutes and the SIMAN summary is obtained.

Result

Replication ended at time: 10000.0 Minutes

Base Time Units: Minutes

Tally Variables

Identifier Observations	Average	Half Width	Minimum	Maximum
Entity 1.VATime	26.567	(Insuf)	17.001	36.241
100				
Entity 1.NVATime	.00000	(Insuf)	.00000	.00000
100				
Entity 1.WaitTime	6.3965	(Insuf)	1.2585	16.610
100				
Entity 1.TranTime	.00000	(Insuf)	.00000	.00000
100				
Entity 1.OtherTime	.00000	(Insuf)	.00000	.00000
100				
Entity 1.TotalTime	12.875	(Insuf)	9.2072	15.854
100				
Batch 2.Queue.WaitingTime	1.3703	(Insuf)	.00000	9.8075
200				
Batch 5.Queue.WaitingTime	1.2486	(Insuf)	.00000	7.9252
200				
BATCH 1.Queue.WaitingTime	.57923	(Insuf)	.00000	4.5486
200				

Discrete-Change Variables

Identifier Value	Average	Half Width	Minimum	Maximum	Final
Entity 1.WIP 2.0000 Batch 2.Queue.NumberInQueue	.61659 .02741	(Corr) (Insuf)	.00000 .00000	7.0000 2.0000	
.00000 Batch 5.Queue.NumberInQueue	.02497	(Insuf)	.00000	2.0000	
.00000 BATCH 1.Queue.NumberInQueue	.01158	(Insuf)	.00000	2.0000	
.00000					
The critical path's (6-7-8) time is 12.875.					

Validation

The results obtained from the simulations are compared with results obtained manually, from LINGO and STORM.

Lingo Model

The Program for the LINGO Model is as below:

```
MODEL: SETS:
NODES/1.6/:TIME;
ARC
(NODES,NODES)/
1,2 1,3 2,3 2,5 3,5 2,4 4,6
5,6/:DUR; ENDSETS
MIN=TIME (6)-TIME (1);
@FOR(ARC(I,J):TIME(J)>TIME(I)+DUR(I,J)); DATA:
DUR=1.33,2.1667,0,4.667,5.667,5.667,3.833,
3.83; ENDDATA
END
```

Result

Global optimal solution found.

Objective value: 11.66670

Infeasibilities: 0.000000

Total solver iterations: 2

Elapsed runtime seconds: 0.06

Model Class: LP

Storm Results

The PERT model is verified in STORM as shown in the *figure (6)*

```
                              PERT
          ACTIVITIES SORTED BY SLACK AND EARLIEST START

Activity          Mean Time   Earliest    Latest
  Name     Symb   /Std Dev   Start/Fin  Start/Fin      Slack

The computations were based on 8 activities
Expected project completion time    = 11.6667

Activity std dev = (pessimistic - optimistic) / 6.0
Std dev of project completion time = 1.7795
```

Figure 6 Results Obtained in STORM

Result Comparisons

Results obtained from Simulation, Storm, Lingo and Manual calculations for the Pert Model is tabulated below:

Arena simulation Software : method 1	Arena Simulation software :method 2	Storm	Lingo	Manual
12.875	11.336	11.6667	11.6667	11.6667

Conclusion

Using ARENA Simulation Software PERT models were simulated to calculate the completion of project time. The advantage of simulation is that model can be made for any desired distribution. It is observed that with the increase in the replication length of the simulation, a more accurate result is obtained. These models were also formulated manually and using the software's: STORM, LINGO. The results of these models are found to be comparable, considering that the model was built on Random numbers.

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FACULTY SURVEY CONDUCTED FOR DEVELOPING A SOFTWARE PACKAGE FOR OUTCOME BASED EDUCATION

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Abstract

This paper examines the consumer requirements for an upcoming software product that aims to provide detailed reports based on Outcome Based Education for faculty and students in Engineering Colleges to help improve the student performance. A questionnaire survey was created with a goal to identify the needs of the faculty, who is the end user, and establish a fact base for justifying the product specification, develop a common understanding of the customer requirements among members of the development team and incorporated functionality specific to the needs of the end user. The alternatives were established for each functionality chosen to be implemented in the software and the best alternative was then selected.

Keywords*: Outcome Based Education, Questionnaire Survey, Software Product*

Introduction

Management practices are the working methods the managers use to improve the effectiveness of the work system. From a very long time, especially in India, documentation in education systems has been maintained only on offline basis. In engineering colleges where there are around 10 to 12 departments and around 12 to 15 faculties, maintaining records of each individual of each batch and able to retrieve it when required is usually not an easy task. Also engineering colleges have made it mandatory for each faculty to prepare a Self-Assessment Report (SAR) at the end of semester. SAR is a report generated by the faculty based on the performance of the students in the course handled by the faculty. This report includes many calculations and also an attainment matrix of Course Outcomes and Program Outcomes. As observed, this Documentation task consumes lot of time and as it is offline, makes the routine task of faculties more tiresome. Due to which faculties are unable to focus on quality education and decrease the number of students who are scoring less. It is also seen that there are four categories of students:

- One who grabs the subject very fast
- One who is able to manage after teaching and studies
- One who finds it difficult to understand the subject
- One who is unable to understand the subject

The first two categories of student do not have much problem in understanding the subject. The last two categories of student are the one who needs continuous support to learn and apply. In order to improve student's performance, teaching - learning process should be made more effective. Hence we are developing a software package which will address the requirements of the faculty in completing their routine work. With the help of software, data

will be stored on cloud and most of documentation work will be made simpler. The software will also address the Indirect Assessment tools such as internships done, industrial training, Massive Open Online Course, industrial visits, research papers published, etc which help the students be industry ready. Therefore the software as a tool would help improve the system and make it more effective.

Survey Conducted

Survey research is a method used for collecting information about a population of interest. In order to develop the software product what the user (faculty) needs, the most important part in product development is the customer requirements. To know the customer requirements, a survey was conducted by using a questionnaire. Below are the topics on which the questions were asked.

- Need of software to map Course Ooutcomes to Program Ooutcomes
- From observation it was sure that software is required, but looking at faculty's point of view software may increase or decrease the work load.

1. 92% of the sample population do think that software can help them better assist activities such as mapping Course Outcomes to Program Outcomes and other related activities.
2. Present method of completing the activities.
3. As faculties are presently doing all the activities involved and also completing it, we wanted to know which particular method or tool they are using presently. As too much of diversion from the present method would make the new product implementation quite difficult. Responses were collected as

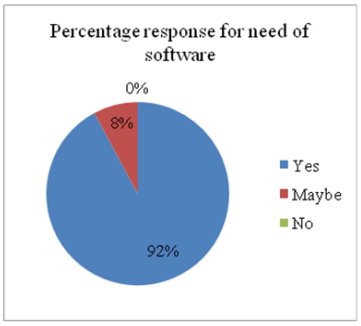


Figure 1 Percentage Responses for Need of Software

- Hand Calculations
- Spread Sheet (MS Excel)
- Custom OBE software

Major portions of the population were using spread sheets to do the attainment calculation. There are advantages and disadvantages associated with all the options. To know the same, advantages and disadvantages of using it were collected.

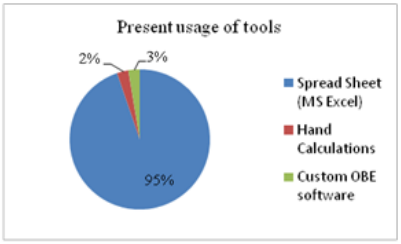


Figure 2 Present Uses of Tools

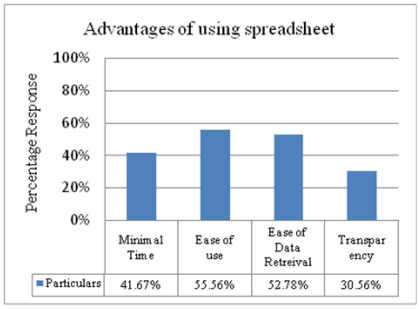


Figure 3 Advantages of using spread sheet

The various functions of spread sheet make it the most popularly used tool. Also the interface of excel is user friendly. With these advantages, around 42 % of sample population have responded that they can do their work in minimal time using excel. Around 56% agrees that it is easy to use for their data entry and calculations. 53% of the sample population are able to retrieve data stored in excel.

This advantage is not common for all the users as data retrieval from excel is tiresome. One can search using the search tool box, but when there are multiple requirements, it makes it complicated.

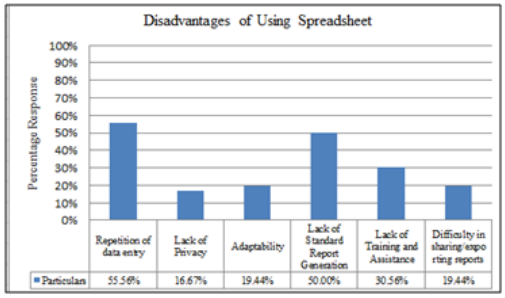
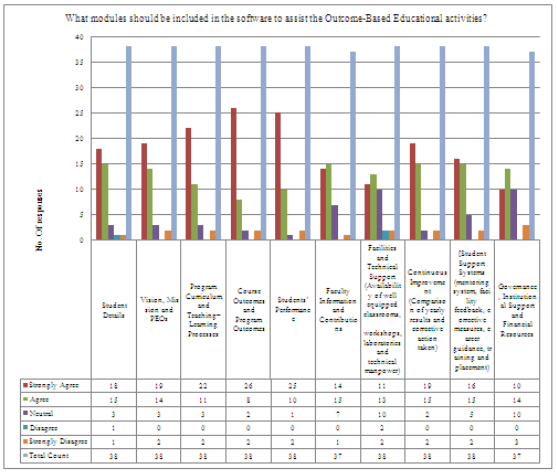


Figure 4 Disadvantages of using Spread Sheet

Apart from the advantages of using spread sheet, there are few disadvantages. The repeated data entry, as there is no central data base of students, it is a major disadvantage and consumes lot of time. To generate a report of the calculations made, one has to do repeat all the steps involved in report generation every time. This again consumes time and report generated by one faculty varies from the other. Using spread sheets for complex calculations need the knowledge of functionalities and the possible codes. Hence training is required and at times assistance if one goes wrong. After the reports are generated, they have to be shared with the concern authorities. 20% of the sample population do have difficulties in sharing it.

What Modules are Required in the Software?

Apart from performing the attainment calculation in the software, it can also help in many other activities as there will be a central database of student's information. To know the other requirements of the faculty, a question was asked for the modules they need in addition in the software.



All most all of them require all the modules to help them in their routine activities. The modules are as follows Student details: The purpose of it is to create a central data base of students enrolled in the department. This will ease the course registration process and also the post processes such as giving the list of students to particular faculties. Vision, Mission and PEOs: The department information will be displayed here. Program Curriculum and Teaching–Learning Processes: The details of the program and courses included will appear here. The different ways in which student performance will be assessed will also be displayed here. Course Outcomes and Program Outcomes: The outcome of the particular course and the outcome of completing the complete programme will be displayed here. Students' Performance: Performance of each individual in each assessment tool will be available here. Faculties can download the standard pre-created excel file, populate them with student's marks and upload.

Faculty Information and Contributions: Many a times faculty's contribution is not noticed and their talent might stay hidden. In this module, detail information of faculty will be available i.e., starting from educational information to the achievements made by them.

Facilities and Technical Support: To be par in the industry with respect to knowledge and skills of using various tools, soft ware's, etc institution should have the facilities and technical support for the same. A list of all those will appear here and the time slot at which they are available.

Continuous Improvement: In any system, the best is always achieved by performing improvement activity. When this improvement activity is continues, the system will be in par with the requirements of the society. In the software, faculties will be able to compare the performance yearly and can also draw necessary conclusions. The conclusion can later be used by them to improve the performance in the upcoming batch.

Student Support Systems: There are the mentoring system, facility feedback, corrective measures, career guidance, training and placement. Up to date information and links can be displayed. These systems take input from the students and improve the system over a period of time.

Governance, Institutional Support and Financial Resources: Student's creativity and innovation are often killed by the financial barriers. Government have taken many initiatives to fund the student ideas and help them grow. The information regarding financial support from government and institution is not available to most of the students. To overcome these problems, possible finance support and the provision of such can be displayed to the students.

Bloom's Taxonomy and Level of Attainment

The cognitive domain of learning, involves knowledge and the development of intellectual skills. The different levels are as follows:

- Remember
- Understand
- Apply
- Analyze
- Evaluate
- Create

Each level can be seen as increasing in the level of difficulty. The similar pattern is being used in question papers. In the survey, a question was asked if the performance and hence the attainment was effected by asking the higher level questions.

71% of the sample population agree that student's performance decrease if a high level question is asked. This also varies on the type of course i.e., theoretical or numerical.

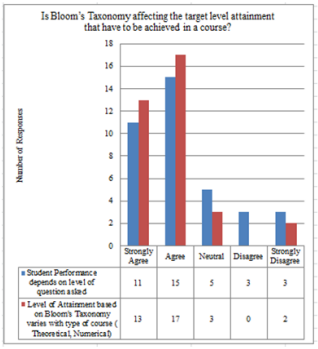


Figure 6 Effect of Blooms Taxonomy on Student Performance

Co-curricular Activities

Complete learning, understanding and applying the knowledge cannot happen inside a class room. This modern era, often considered the new industrial renaissance or the 4th industrial revolution, requires a reconceptualization of ways the industry and academia collaborate for preparing students for the global workforce. The co-curricular activities like internships, Industrial Visit/Industrial Training, Massive Open Online Courses (MOOCs), Technical Workshops are the new platforms for creating industry ready students. A question was asked if these really help students or not and if yes then should there could be weight age assigned to it.

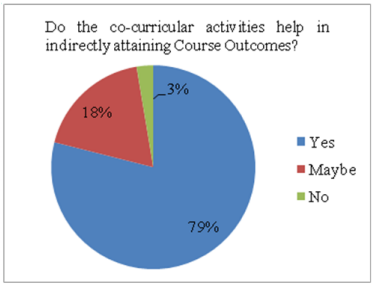


Figure 7 Percentage Response if Co-Curricular Activities Help in Indirectly Attaining Course Outcomes

79% of them do agree that these co-curricular activities help in indirectly attaining course outcomes.

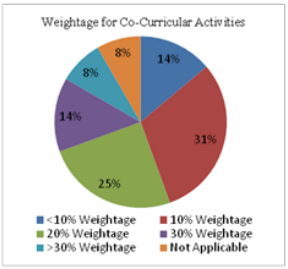


Figure 8 Percentage Responses for Weight age for Co-Curricular Activities

78% of the sample population agree that 10% or more weight age can be assigned to these co-curricular activities.

Software Functionalities

Course-wise Co Po matrix, comparison of student performance in CIE and SEE, condensed CO-PO matrix of all the course handled, personalized student wise report and achievement during the course. These are the expected functionalities required by the faculty. A question was asked if they would use them or not.

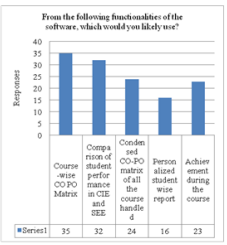


Figure 9 Number of responses for functionalities the faculties would use

Dedicated Mobile Application

Mobile is one the most frequently used gadgets by most of them. If the application is available to them on the phone, will they use it? Will the application help them update the information more easily? A question was asked if a dedicated mobile application was required for the routine activities.

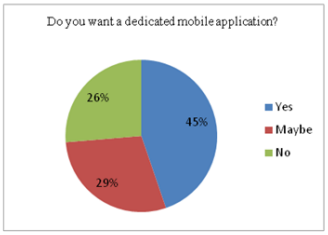


Figure 10 Percentage Responses for Requirement of a Dedicated Mobile Application

Conclusion

With this survey, we have got a positive response to proceed with the development of it. Most of them are running out of time for bringing the slow learners up. Also auditing activities require additional time. Total time available is a constraint and cannot be increased. Due to which either the faculty will be frustrated due to overload

or not be able to maintain the required reports. To ease their routine activities we are developing a software package that will assist them and do the complex calculations and analysis.

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MICRO-STRUCTURE AND ELEMENTARY ANALYSIS OF SS-304/434 FOR SOLAR WATER HEATER APPLICATIONS

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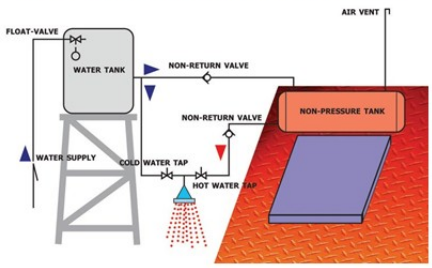
Abstract

The life of a solar water storage tank will depend on the durability of the materials of construction involved and on the conditions existing within and around the system. The most commonly used material for water storage tanks is stainless steel. Stainless steels (SS) are widely used in different types of industries due to their good mechanical and corrosion properties. Depending on their final applications, many alloying elements, besides nickel and chromium, are added into the SS to increase their mechanical and corrosion properties. The effect of cold deformation/cold rolling process on the micro structure and localized corrosion resistance of stainless steels has a detrimental effect of deformation on the pitting resistance of the stainless steel. The corrosion resistance of stainless steels is strongly affected by their chemical composition, the main defect being presence of micro-cracks which lead to deposition of calcium carbonate. This leads to localized corrosion which spreads to be globalized corrosion. The aim of the present study was to evaluate different samples of stainless steel without the presence of any coating material using XRD and SEM and EDS analysis. Detailed information based on the analysis is given on the performance these particular metals (SS-304/434), used for constructing solar water tanks. The mechanical properties and micro-structural features as well as the presence and composition of certain elements in the following samples were systematically studied in order to establish the relationship among micro-structure, mechanical properties, manufacturing process and effect on sample. These findings formed the basis of recommendations aimed atthe prevention and control of corrosion in such solar water heating systems.

Introduction

Solar water tank is the conversion of sunlight into heat for water storage using a solar thermal collector. A variety of configurations are available at varying cost to provide solutions in different climates and latitudes. Solar water tanks are widely used for residential and some industrial applications. A sun-facing collector which is coated with a dark color has a series of tubes in it. A water storage tank is placed above it. The coated collector absorbs the heat from the sunlight and heats the water in the tubes and the heated water is stored in the tank.

Figure 1 Roof-Mounted Solar Water Heater



Applications of Stainless Steel

Stainless steel is an alloy of Iron with a minimum of 10.5% Chromium. Chromium produces a thin layer of oxide on the surface of the steel known as the 'passive layer'. This prevents any further corrosion of the surface. Increasing the amount of Chromium gives an increased resistance to corrosion. Stainless steel also contains varying amounts of Carbon, Silicon and Manganese. Other elements such as Nickel and Molybdenum may be added to impart other useful properties such as enhanced formability and increased corrosion resistance. Its various applications are :-Automotive and transportation, Medical, Chemical Industries, Energy and heavy industries and Food and catering et

Material Composition

Table 1 Material Composition of Stainless Steel 304

Grade		C	Mn	Si	P	S	Cr	Ni	N
304	Min	-	-	-	-	-	18.0	8.0	-
	Max	0.08	2.0	0.75	0.045	0.030	20.0	10.5	0.10
304L	Min	-	-	-	-	-	18.0	8.0	-
	Max	0.030	2.0	0.75	0.045	0.030	20.0	12.0	0.10
304H	Min	0.04	-	-	-	-	18.0	8.0	-
	Max	0.10	2.0	0.75	0.045	0.030	20.0	10.5	-

Table 2 Material composition of stainless steel 434

Grade	Fe	Cr	Mo	Si	Mn	C	P	S
434 (Content)	81	16	1	1	1	0.12	0.04	0.03

Literature survey

In The report (1) published by author Fred M. Reinhart, et al (1) Methods of reducing the corrosion of metals used in these systems were considered, first by identifying potential causes for corrosion in the soil and other external environments to be encountered and in the domestic water itself. Many different procedures to anticipate and control corrosion were presented, including the use of protective coatings, Cathodic protection, and plastic composites as a substitute for metals. Problem areas such as galvanic corrosion, proper surface preparation and techniques for application of protective coatings were considered. The purpose of this report was to provide the latest corrosion control design procedures for potable water and water distribution systems for Air Force Base construction. The objective was to achieve maximum protection against corrosion per construction dollar and thereby avoid unnecessary corrosion breakdowns.

In another report (2) published by authors C.Cuevasarteaga, J. UruchurtuChavarin, Miguel A. Martinez G.(2), Studies of the corrosion evaluation of SS-304 stainless steel exposed in aqueous lithium bromide solution have been carried out applying the electrochemical noise technique, polarization curves and the weight loss method. The test temperatures were 50^0, 60^0 and 70^0C, and the exposure time was for fifteen days. The main objective was to determine the corrosion rates and the type of corrosion that SS-304 suffers under the mentioned condition with the purpose of evaluating its application to heat pumps/transformers. According to the experimental results obtained for SS-304 stainless steel exposed to a lithium bromide aqueous solution at different temperatures, it is concluded:

- The process appears to be controlled by oxygen diffusion
- Here is a decreasing effect of temperature on the corrosion rate of the metal;
- Corrosion proceeds under localised or mixed conditions;
- According to atomic absorption analysis, it is possible the formation of three oxide films on the metal ,maybe F2O3,Ni0, and Cr2O3 which are the most stable oxides of iron, chromium and nickel

In the study of Electrochemical Noise Analysis In The Frequency Domain And Determination Of Corrosion Rates For Ss-304 Stainless Steel (3) by C. Cuevas-Arteaga, J. Porcayo-Calderon´, (3) Studies of the corrosion evaluation of SS-304 stainless steel exposed in lithium bromide aqueous solution have been carried out by applying the electrochemical noise technique and polarization curves, as well as the weight loss method.

The test temperatures were ambient to 80^0C, and the exposure time was during 15 days. The noise resistance was calculated through statistical analysis, and then, the Stern–Geary equation and Faraday law were applied to determine mass loss, which was compared to that obtained from weight loss method. Two localized corrosion indicators were also obtained: pitting index (PI) and the coefficient of variation of current (CV), which were compared each other and interrelated with the noise signals and visual observationsAccording to the experimental results obtained, it is concluded:

1. Physical corrosion characterization demonstrated the presence of localized corrosion in a form of pitting corrosion, especially at the highest temperatures.
2. The cathodic branch presented a current limit region probably associated to oxygen diffusion. Both presented a slight modification with respect to temperature increase.
3. The anodic branch presented different behavior depending upon temperature conditions. Below 50^0C, the anodic branch presented a not very well defined Tafel region and a passive region. Above that temperature the passive region disappeared, probably due to solubilization and/or morphological modification of the corrosion products
4. The pitting potential remained independent of temperature.
5. Electrochemical noise signals demonstrated the presence of mixed and pitting corrosion, especially at 60, 70 and 80^0C. At 25 and 50^0C was necessary to confirm the corrosion process by means of visual observations and the calculation of statistical parameters as the pitting index and coefficient of variation of current.
6. The corrosion rate as a function of temperature obtained from weight loss and electrochemical noise methods presented similar trend.
7. Pitting index and coefficient of variation of current were alike in values and presented the same behavior as indicators of localized corrosion.

Experimental Analysis

Figure 2a Scanning Electron Microscope

Figure2b Energy Dispersive Spectroscopy

Scanning Electron Microscope (SEM)

It is a type of electron microscope that produces images of a sample by scanning the surface with a focused beam of electrons. The electrons interact with atoms in the sample, producing various signals that contain information about the sample's surface topography and composition. The electron beam is scanned in a raster scan pattern, and the beam's position is

combined with the detected signal to produce an image. SEM can achieve resolution better than 1 nanometer. The signals used by a scanning electron microscope to produce an image result from interactions of the electron beam with atoms at various depths within the sample. Various types of signals are produced including secondary electrons (SE), reflected or back-scattered electrons(BSE), characteristic X-rays and light (cathodoluminescence) (CL), absorbed current (specimen current) and transmitted electrons. Secondary electron detectors are standard equipment in all SEMs.

Energy Dispersive Spectroscopy

EDS is an analytical technique used for the elemental analysis or chemical characterization of a sample. It relies on an interaction of some source of X-ray excitation and a sample. Its characterization capabilities are due in large part to the fundamental principle that each element has a unique atomic structure allowing a unique set of peaks on its electromagnetic emission spectrum.

To stimulate the emission of characteristic X-rays from a specimen, a high-energy beam of charged particles such as electrons or protons, or a beam of X-rays, is focused into the sample being studied. At rest, an atom within the sample contains ground state (or unexcited) electrons in discrete energy levels or electron shells bound to the nucleus. The incident beam may excite an electron in an inner shell, ejecting it from the shell while creating an electron hole where the electron was. An electron from an outer, higher-energy shell then fills the hole, and the difference in energy between the higher-energy shell and the lower energy shell may be released in the form of an X-ray. The number and energy of the X-rays emitted from a specimen can be measured by an energy-dispersive spectrometer. As the energies of the X-rays are characteristic of the difference in energy between the two shells and of the atomic structure of the emitting element, EDS allows the elemental composition of the specimen to be measured

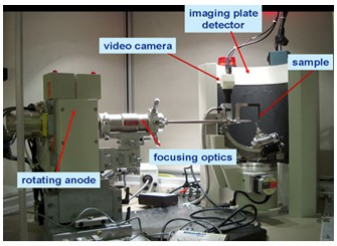


Figure 3X-Ray Diffraction Equipment

X-ray crystallography is a technique used for determining the atomic and molecular structure of a crystal, in which the crystalline atoms cause a beam of incident X-rays to diffract into many specific directions. By measuring the angles and intensities of these diffracted beams, a crystallographer can produce a three-dimensional picture of the density of electrons within the crystal. From this electron density, the mean positions of the atoms in the crystal can be determined, as well as their chemical bonds, their disorder, and various other information. In a single-crystal X-ray diffraction measurement, a crystal is mounted on a goniometer. The goniometer is used to position the crystal at selected orientations. The crystal is illuminated with a finely focused monochromatic beam of X-rays, producing a diffraction pattern of regularly spaced spots known as reflections. The two-dimensional images taken at different orientations are converted into a three-dimensional model of the density of electrons within the crystal using the mathematical method of Fourier transforms, combined with chemical data known for the sample.

Results

SEM Analysis

Sample 1 - Stainless Steel 304 Bare Metal

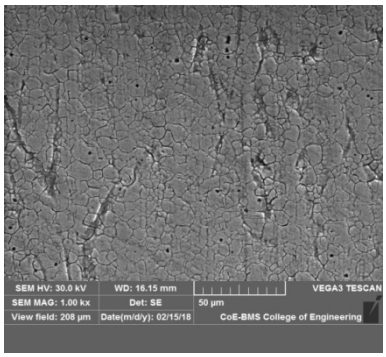


Figure 4a SEM image of SS 304 50 microns

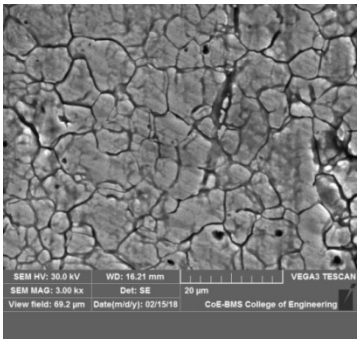


Figure 4b SEM image of SS 304 20 microns

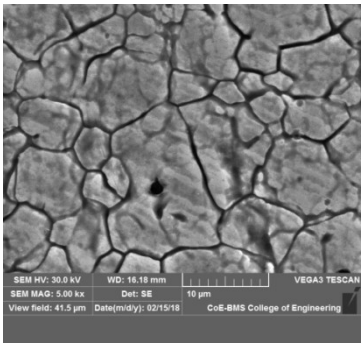


Fig. 4.c SEM image of SS304 10 microns

SEM images which are shown in the fig 4.a are taken with a magnification of 1kx at a scale range of 50 microns. The micro structure has some micro cracks that is due to manufacturing method adopted i.e. cold rolling process. The micro cracks will attract the calcium carbonate which is there in the hard water and causes to instate localized corrosion especially in solar water heating application. Similar results are witnessed in fig.4.b and 4.c as well.

Sample 2 - Stainless Steel 434

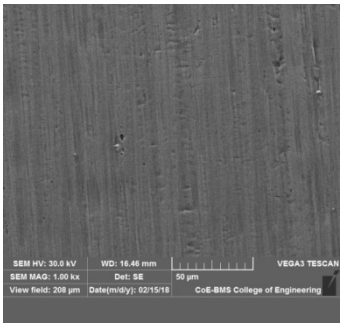


Figure 5a SEM image SS434@50 microns

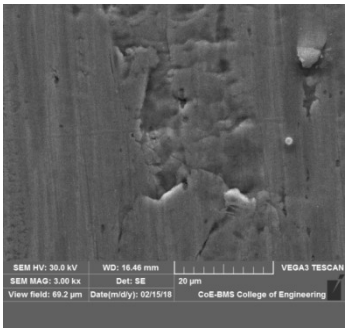


Figure 5b SEM image of SS434@20 microns

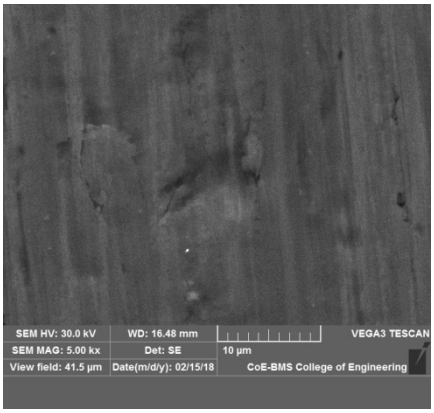


Figure 5c SEM image of SS434@10 microns

In sample 2 the SEM image shows in fig 5.a were observed. There is no micro cracks present in the sample and that shows there is less tendency of the calcium carbonate accumulation in the solar water heater storage. Hence the corrosion may not effect much in SS434 when compared with SS304.

EDAX Analysis

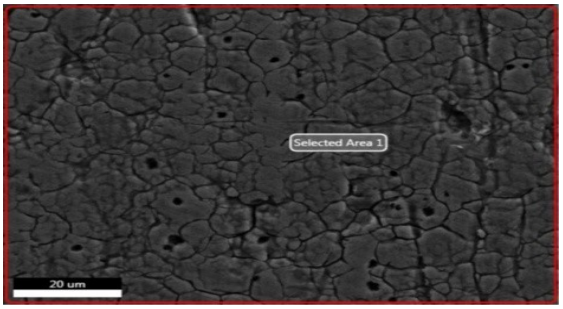


Figure 6a Scanned area for EDAX

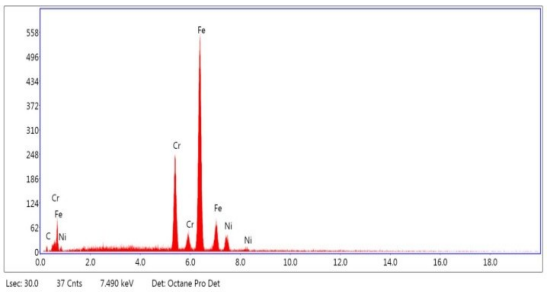


Figure 6b Elementary analysis for EDAX

Table 3 Material Composition of Stainless Steel (SS) 434

eZAF Smart Quant Results					
Element	**Weight %**	**Atomic %**	**Net Int.**	**Error %**	**Kratio**
C K	9.35	32.18	5.86	20.54	0.0271
CrK	16.96	13.49	190.13	4.35	0.2019
FeK	66.95	49.57	487.35	2.67	0.6311
NiK	6.74	4.75	35.77	15.31	0.0558

Figure 6.EDAX analysis of: (a) 304 bare metal stainless steel (SS) at 20 micro meters (b) elemental analysis of stainless steel 304 bare metal. The graph represents the angle of the beam vs the intensity of the beam and determines the composition and elements present in the given sample. The weight percentage of chromium is found out to be 16.96% and the weight percentage of nickel is found out to be 6.74%

Sample 2 - Stainless Steel 434

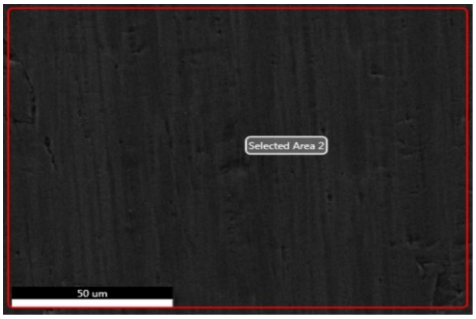


Figure 7a SEM Scanned area

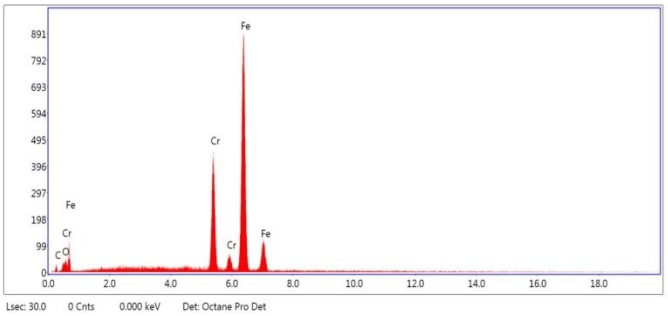


Figure 7b Elementary analysis

Table 4 Material Composition of Stainless Steel (SS) 434

eZAF Smart Quant Results					
Element	**Weight %**	**Atomic %**	**Net Int.**	**Error %**	**Kratio**
C K	10.32	33.03	10.83	16.86	0.0310
O K	2.47	5.93	9.41	25.88	0.0089
CrK	19.29	14.26	344.03	3.65	0.2262
FeK	67.93	46.77	779.42	2.43	0.6251

Figure 7 EDAX analysis of: (a) 434stainless steel (SS) at 20 micro meters (b) elemental analysis of stainless steel 434 .The graph represents the angle of the beam vs the intensity of the beam and determines the composition and elements present in the given sample. The weight percentage of chromium is found out to be 19.29%.

X- Ray analysis

Sample 1 - Stainless Steel 304 Bare Metal

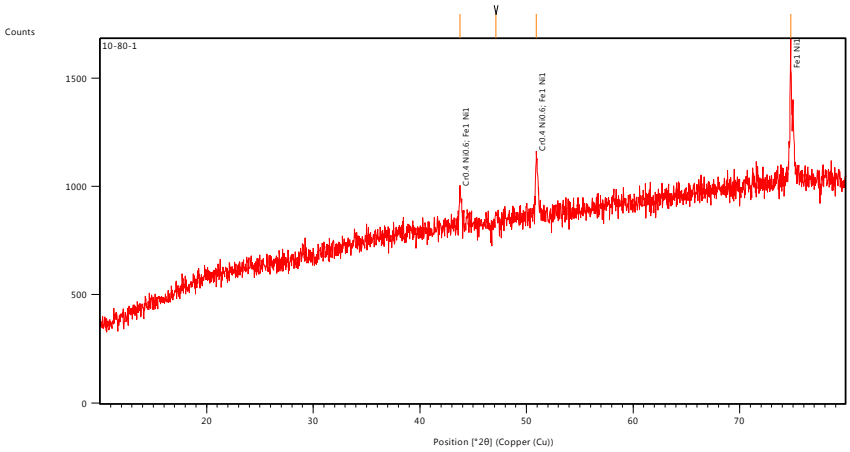


Fig. 8 X-ray analysis of stainless steel 304 bare metal

From the graph representing the angle of X- ray beam vs the intensity of the X-ray beam, it is determined that the presence of CrO4 and NiO6 at a given range of 43-45 degrees is identified in the given sample

Sample 2 - Stainless Steel 434

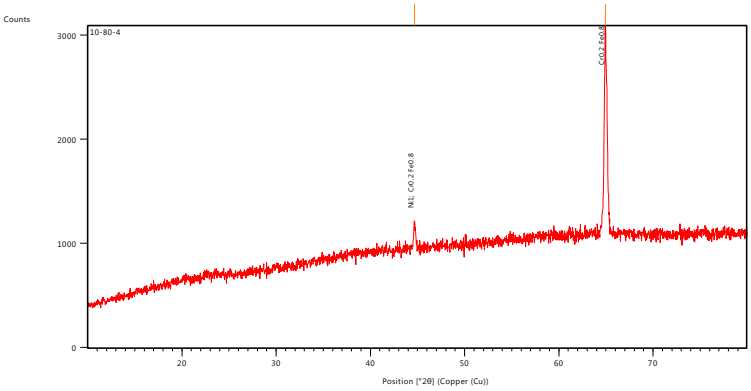


Fig 9 X-ray analysis of stainless steel 304 bare metal

From the graph representing the angle of X- ray beam vs the intensity of the X-ray beam, it is determined that the presence of CrO4 and Ni1 at a given range of 43-45 degrees is identified in the given sample.

Conclusion

- Compound analysis of the following samples by X-Ray process shows the presence of CrO4 and NiO6 in stainless steel 304 bare metal whereas the compounds in stainless steel 434 in the same range of angle have been reduced to CrO2 and Ni1 thus showing that the oxidation reaction at the surface of stainless steel 434 is high and thereby reduces it corrosion resistance.
- Micro-structural study by SEM surface analysis ofthe following samples shows that the defects and the cracks produced in the micro-structure of stainless steel 304 bare metal is greater than the defects and the cracks produced in the micro-structure of stainless steel 434 thereby showing that the corrosion resistance may be higher in stainless steel 434.
- Elemental analysis of the given samples shows that presence of chromium content (19.29%) in stainless steel 434 is higher than the chromium content (16.96%) in stainless steel 304 bare metal. Hence the corrosion resistance of stainless steel 434 is higher than stainless steel 434.
- Since solar water heater systems are used by a large population across the world, this research will help reduce cost of service and maintenance.

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3. Electrochemical noise analysis in the frequency domain and determination of corrosion rates for ss-304 stainless steel c. Cuevas-Arteaga , J. Porcayo-Calderon´, July 2006
4. Cold rolling effect on the microstructure and pitting resistance of the nbr iso 5832-1 austenitic stainless steel

"AN IMPACT OF KEY MARKET RISK ENCOUNTERED BY THE LEADING INDUSRTIES ITC AND HINDUSTAN UNILEVER LTD: ANALYSIS AND COMPARISON"

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Abstract

Market risk is the possibilities of investors to experience losses due to factors that affect the overall performances of the company or the organization. Market risk occurs in all the aspects of one business, there is no business which runs risk free. Every business has risk to be faced by them in each and every stages of operating their business. This can be unknown or foreseen by the organization. Therefore an organization must try to identify their risk and must take necessary preventive measures to avoid the risk which might have an adverse effect on their business operation and performances. This paper being a descriptive research paper representing the market risk encountered by the two leading FMCG (Fast moving consumer goods) industries which gradually affects their business plan and their strategies. These risks can also have an adverse impact on business performances and overall growth level. The paper also addresses the comparison of business operation of two leading FMCG industry(ITC LTD and HUL LTD) and their growth status in recent years and provides suggestions to overcome their risks and to sustain for a longer period of time in the market and to create a healthy competition by providing qualitative products and services.

Keywords: *market risk, FMCG industry, business performance*

Introduction

Market risk is the risk that the value of an investment will decrease due to changes in market factors these factors will have an impact on the overall performance on the financial markets and can only be reduced by diversification into assets that are not correlated with the market-such as certain alternative assets classes. Market risk is sometimes called "systematic risk" because it relates to factors, such as recession, that impact the entire market.HUL LTD (Hindustan Unilever ltd) is an Indian consumer goods company based in Mumbai, Maharashtra. HUL is India's largest FMCG co. with the heritage of over 80yrs in India. It is owned by the British Dutch co. Unilever which controls 52% majority stake in HUL its products include food, beverages, cleaning and personal care products. HUL was formed in 1933 as levered brother India ltd and came into being in 1956 as HUL ltd. HUL works to creates better future everyday and helps people feel good, look good, and get more out of life with brands and services. With over 354 brands spanning 20 distinct categories. The ITC LTD (Indian Tobacco Company Ltd). The business of ITC ltd is divided into 5 major segments: FMCG, hotels, paperboards and packaging and Agri- business and information technology. ITC was formed on 24th august 1910 with the name imperial tobacco co. of India ltd and co. went public on 27th October 1954. And later was engaged with tobacco business and again later the co. acquired hotel in Chennai (now known as my fortune Chennai). ITC started Surya tobacco in Nepal, with the shares dividend between ITC. In later days ITC involved themselves in various fast moving consumer goods. And also the company emerged with inline sales in 2014.

Research Methodology

Design of the Study

This paper is completely based on descriptive research design.

Objective of Study

1. To study the overall growth level of two industries: HINDUSTAN UNILEVER LTD, and ITC(India Tobacco Company Ltd)
2. To analyze the various market risk faced by both the leading FMCG industries.
3. To evaluate the impact of market risk on both the industries and to compare the business performances.
4. To suggest the views regarding the negative impact on market risk on the overall growth and development of these industries.

Data Collection

The study is based on secondary data. Information is collected through journals, websites and newspaper.

Limitations of the Study

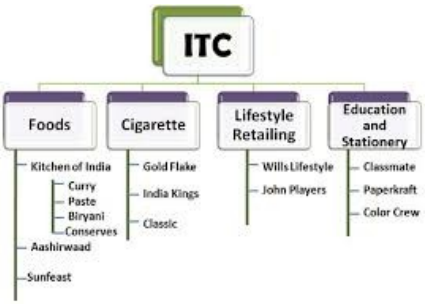
1. The study is based only on secondary data.
2. The study is constrained with respect to limited secondary data due to time constraints.

Findings

Overall Market Risk Faced By the Market Leaders of FMGC Industries

ITC LTD (India Tobacco Company)

ITC Limited



Regulatory Risk

Regulatory risks for ITC remain elevated, despite the change of guard at the health ministry in New Delhi. But the market has shrugged it off, a day after the ministry accepted an expert panel's recommendation on prohibiting sale of loose cigarettes, among other measures, to curb consumption of tobacco products. A day after the announcement, shares of ITC rose 2.1 per cent, as the Street feels implementing such proposals couldn't be easy. There are also other recommendations such as raising the minimum age limit for tobacco consumption and

increasing the penalty on smoking in public from Rs 500 to Rs 20,000. The panel also wants harsher penalties on producers for violation on pictorial warnings. Tighter controls for advertising at the retailer level have also been proposed. If implemented, these would be negative for listed cigarette manufacturers like ITC. About 75 per cent of ITC cigarettes, claim analysts, are sold in the loose format.

The construct of the tobacco industry in India is unique and is largely dominated by non-cigarette products which are not only cheaper but also revenue inefficient. With over 17% of the world population, India has a miniscule share of only 1.8% of global cigarette consumption. In fact, India's annual per capita consumption of cigarettes is amongst the lowest in the world. While cigarettes account for less than 15% of the overall tobacco consumption (by weight) in the country, they contribute about 75% of the total tax revenue from the tobacco sector accruing to the exchequer. On the contrary, other forms of tobacco are lightly taxed in India, and in some cases are even tax exempt, leading to a high degree of potential tax loss.

The Cigarette industry had to contend with a steep increase in Excise Duty for two years in succession along with discriminatory and punitive increases in Value Added Tax (VAT) rates by some States. Such tax increases not only undermine the legal domestic cigarette industry and sub-optimize revenue potential from this sector but also fail to achieve the objective of tobacco control in the country. According to various independent reports, there is a high degree of dual consumption with a significant number of cigarette consumers in India also consuming other forms of tobacco. High incidence of taxation and a discriminatory regulatory regime on cigarettes have, over the years, led to a significant shift in tobacco consumption to cheaper and revenue inefficient forms like bidis, chewing tobacco etc.

Hindustan Unilever Ltd (HUL)

Financial Risk

- The problems that Hindustan Unilever Limited currently facing is increasing input costs and operations costs due to rise in raw material costs, increasing imitative and spurious products, and stiff competition from other FMCG players.
- There is slowdown in the global economy and the problem that started in the financial sector extended rapidly to other sectors affecting not only the US but the global economy. Most of India's domestic sectors are also affected including country's exports performance and FMCG sectors.
- There is an unprecedented volatility in raw materials price contributed largely by increasing crude oil prices. Unprecedented volatility in raw materials price associated with uncertainties in the commodities movement needs a desperate careful management in the FMCG companies. Although some companies managed to do well categories like detergents met decreasing sales.
- Hindustan Unilever Limited has a large brand portfolio consisting number of brands. It will be difficult to manage such extended brand portfolio by any company but it is the

nature of FMCG industry and company. The current global scenario with swinging raw material prices and intense competition faced by the company needs a careful management.

- The problem that the company is facing for long time is the increasing imitative products. The popularity of the HUL's brand and the reach it possess drives the local manufactures to imitate the products leading some to produce even the fake products. The fake products are seen highly in rural markets. This greatly affects the brand equity of the HUL.
- The company is facing increasing input costs due to increase in price of the raw materials. There is a potential impact on the company due to rising inflation, freight costs and raw materials.
- Hindustan Unilever Limited is facing tough competition than years before from ITC, Procter & Gamble, Colgate-Palmolive, Nestle and Godrej. ITC is competing toughly with HUL through various brands that are market leaders. The competition is further intensified by several new entrants. This intensified competition already witnessed by HUL's losing market share in certain segments and also increase in operation costs.

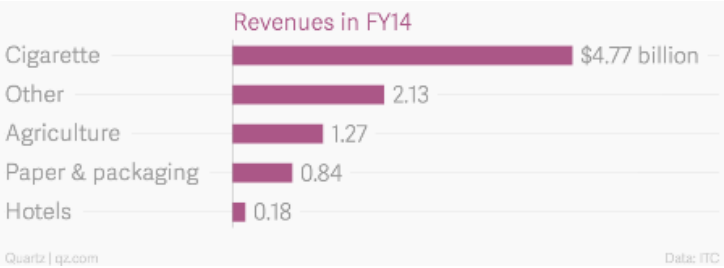
Comparision of Two FMCG Majors: Hindustan Unilever Ltd and India Tobacco Company Ltd

ITC

ITC is not a pure-play FMCG company, since cigarette is its primary business. It is diversifying into non- tobacco FMCG segments like foods, Personal care, paper products, hotels and agri-business to reduce its exposures to cigarette.

Performance

Despite diversification, ITC reliance on cigarette is still huge. The tobacco business contributes 40% to its revenues, and accounts for over 80% of its profits. This cash generating business as enabled it to take ambitious, but expensive bits in new segments and deliver modest profit growth. ITC's non-cigarette FMCG business which contributes 15% of its revenues eroded close to 8% of ITC's profits last year. Its other businesses like Hotels and paper together account for over 20% of ITC's profit. Agri-business, which is its 2nd largest revenue earner, contributes 1/4th to its revenues, but only 3-4% to its PBIT.



Growth Drivers

ITC's backward integration to ensure that its products pass efficiently from the farms to consumers has helped it to cut down supply and procurement cost. ITC's non-cigarette FMCG business leverage the large distribution network the company has developed by selling cigarette over the years. A rich product mix, along with ramp up of its investments in its new sectors, will be instrumental in charting ITC's growth path.

Financial Aspects

During the last three fiscals, ITC's consolidated revenue as seen a CAGR of 22%. Its profit as growth adjusts 12% during the same period. ITC's sales and profit have displayed a secular growth trend. But the pressure of sustaining its new businesses as well as higher tax burden on the cigarette business, its straining its profit. After undeterred growth spanning 8 quarters, ITC witnessed a marginal growth in net profit for the training 4 quarters ended June.

Hindustan Unilever Ltd (HUL)

HUL is the largest pure play FMCG Company in the country and as one of the widest portfolio of products sold via a strong distribution channel. It owns and markets some of the most popular brands in the country across various categories, including soaps detergent, shampoos, tea, and face cream.

Performance

After stagnating, the company is back in the growth track. In the past three years, HUL's net sales have witnessed a CAGR of 11%, while net profit as posted a CAGR of 17%. The company is said to gain further momentum, given the revival of consumer spending, HUL sells products at different price points straddled between the entire value chains. In the past few years, it has diversified into processed foods, ice-creams. Water purifiers, specialised chemicals. But home and personal care (HPC) continues to remain the bread and butter segment for the company. This division accounted for 72% of HUL's revenue and 91% of its profit (BIT) during the year financial year. So it would not be wrong to call a personal care major.

Growth Drivers

The company has being launching new products and brand extension, with investment being made towards brand building and increasing its market share. HUL is also stream lining its various business operations, in line with the one Unilever philosophy adopted by the Unilever group worldwide. Introduction of premium products and addition of new consumers via market expansion will be HUL's growth drivers.

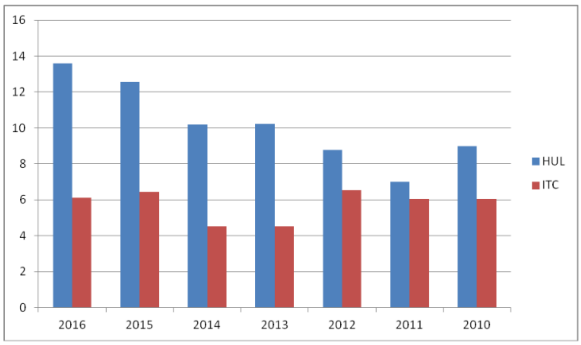
Financial Aspects

HUL's net sales have recorded a CAGR of more than 11% over the past 3yrs, while its net profit has posted a CAGR of 17% during the same period while its sales have maintained a secular growth trend, profit margin have shown an erratic trend during the period. High

dividend yield, study growth and strong market standing in its product categories have enabled HUL to command premium valuation compare to other FMCG companies.

Graph Showing the Comparison of "Inventory Turn Over Ratio" between HUL and ITC Ltd

	2016	2015	2014	2013	2012	2011	2010
HUL	13.61	12.57	10.20	10.21	8.79	7.02	8.99
ITC	6.10	6.43	4.52	4.53	6.53	6.05	6.04



Graph Showing the Comparison of "Stock Market Performance" between HUL and ITC Ltd

	ITC Ltd ITC (NSE)	Hindustan Unilever Ltd HINDUNILVR (NSE)
Mkt cap	3.16T	2.80T
Employees	25,883	18,000
P/E ratio	-	172.72
Div yield	1.84%	1.39%

Suggestions

- ITC has earned better dividend yield but, HUL has paid better returns when compared to ITC so, ITC has to look into this aspect in overcoming capital issues.
- Managing the competitions is leaded in the front by HUL and ITC must adopt some policies which can overcome their competitive risk.
- ITC has to concentrate on food and personal care items due to the reason for CSR issues with the producing the tobacco products which is always a risk oriented.
- ITC has to create a good image for its sub-brands, and must also concentrate on other products than the farm based products.

Conclusion

The overall comparison between ITC and HUL shows that HUL still remains to be the largest FMCG Company in India. ITC has diversified businesses but is highly dependent on its segment of cigarettes. The analysis also shows that ITC has managed to earn the most in cash because of its cash-generative business of cigarettes in comparison to HUL. The changes in ratios show that HUL has still been the same customer-friendly company as usual but ITC has

been competitive and managed to remove various debts in the past six years. ITC has earned a lot of bonus in equity but still HUL has paid a good amount of dividend in comparison to ITC. The inventory of HUL has rose sharply because of more and more new brand launches while it remains stable for ITC because it focuses more on delivering the farm products from the villages to its customers.HUL has been witnessed a good competition from ITC and this shows that MNCs like HUL are increasingly facing competition from domestic companies which have, in turn, shown an increase in the global reach like ITC. But HUL seems to be handling the competition well.ITC has shown sharp increases positively in most of the ratios and has shown growth. But increasing clamps on tobacco and tax burden are big threats.HUL has very smoothly managed its Corporate Social Responsibility (CSR) and has stable ratios and good growth in equity and market. ITC has a bit difficulty in CSR because of its tobacco-dominated business but in other businesses, it has tried its every technique to manage CSR like through stationery, food items, etc. Both the companies are the true reflections of the overall growing industry and economy in India.

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7. www.economictimes.com

A STUDY ON "NON-GOVERNMENT ORGANISATIONS: PROBLEMS & REMEDIES IN INDIA"

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Introduction

Women, although constitute half of humanity, they are socially, economically & politically marginalized. The nature of empowerment can be diverse, depending upon the parameter that define the lack of power within the institutional framework in operation .For the several decades, national government, non-governmental organization and international agencies have been aware and concerned about the status of women. Women play an important role in the family and the society, but in all essential areas of life women are generally at significant disadvantage as compared with men whether in terms of education, income, partner choice, inheritance laws , property rights, decision-making processes, community organization or access to leadership positions in education, business or politics. The need for empowerment of women thus arises from this harsh social scenario. Women and their problems are being given much importance in our social milieu.

Non-Government Organisation (NGO)

A non-governmental organization is any Non-profit, voluntary citizens group which is organized on a local , national or international level, task-oriented and driven by people which is common interest, NGOs perform a variety of service and humanitarian functions, bring citizen concerned to government, advocate and monitor policies and encourage political participation through provision of information. In India, NABARD play a key role in assisting banks and NGOs involved in micro finance schemes. Non-governmental are playing a significant role in empowerment of disadvantage women, helping them stand on their own through such programmes as socio-economic programmes vocational training and other similar programmes. NGOs economic empowerment, health and general sensitization such as education, empowerment etc India's present socio-economic situation on does not favor poor women. Socio-economic forces greatly influence NGOs priorities on for women's development in India. A critiques of NGOs illuminates their strength, limitations and possibilities for women's development issues, a brief description of origins of NGOs introduces a discussion of their strength and challenges to determine the extent to which they support poor women's socio-economic needs in India.

Review of Literature

Jejeebhoy(2000)1, have made a study on India in three dimension like, role of economic decision making, role of child related decision making and the freedom from threat. The independent variables used were religion, education participation in waged work, dowry size, marriage endogamy, spouse age difference and household economic status. he found out that some dimension of employment is more closely related than others.

Tracey L. Moyle, Maureen Dollard and Saswata Narayana Biswas (2006)2, studied on "personal and Economical Empowerment in Rural Indian Women: a Self Help Group Approach" in their study examined that the role of NGO is critical in providing women with tools to improve their livelihood and enhance their self development, self-awareness, capacity building and leadership development

Rahman Muhammad Mahmudur (2007)3, the study undertaken on 'NGOs and empowerment of women in rural Bangladesh', in his study observed that NGOs empower women in the areas of economic, political and social activities.

Helvetas Nepal (2009)4 the mushrooming trend of NGOs is facing criticism from the people accusing them for not maintaining transparency, ineffective programmers and their long term impact and nepotism and favoritism. it is claimed that women in Nepal still largely face social, economical, political and physical discrimination, exploitation and marginalization. So it become pertinent to ask in general, whether various programmers' run by these NGOs really empower women in Nepal.

Neelima Kumara (2013)5 studied on "The role of NGOs in socio- economical development of Jharkhand An overview". Voluntary effort has always been an important part of our country. Voluntary organization can play a crucial role in rural development by supplementing government efforts as they are close to the minds and hearts of the rural people.

Problems of NGOS

Lack of Funds

Most of NGOs in India are suffering from paucity of funds. Government does not dive percent grants in aid or make delay in sanctions of grants for numerous programmers. Now a day's charity is not so strong in the minds and hearts of the people s it was in the ancient society. This was another region for languish of founds for NGOs.

Lack of Dedicated Leadrership

Leadership qualities of the leaders in NGOs determine the quality and condition of the services rendered by any organization. Especially dedicated leadership "Leadership for the sake of the leadership" is a most important governing factor in this regard.

Inadequate Trained Personnel

It is believed that the personal working in NGOs may be personnel working in such organizations are a sense of dedication and commitment and interest in the social services. NGOs earlier were assumed to be served by unpaid social workers imbued with the spirit of

service and did not require any special education or training NGOs. Their vision has been changed and is interested to work in urban areas only. They are very difficult to get trained persons who are either willing or trained to work in the where most of NGOs work.

Misuse of Funds

It is the matter of fact that some unscrupulous elements have made fortunes by floating NGOs for their personnel's gains and managing grants from the government. it is a common experience that there have been serious charges of misuse and misappropriation of funds received as grant-in-aid from the government, foreign donors and raised through their own resources by the most of the NGOs.

Monopolization of Leadership

It has been observed that there is a growing tendency towards monopolization and interlocking of leadership at the top level of voluntary action groups and organizations as is reflected in the same person being the presidents in one organizations, secretary in the other, treasurer in the third and a member of the executive in the fourth. but the greatest disadvantage of such leadership is that fresh blood is not allowed to flow into the organization and leadership.

Lack of Public Participation

NGOs are meant to provide opportunities to the citizens for democratic participations but they have not been able to fulfill this obligation due to the method and manner in which they function and failed to attract people, interested in construction work and develop channels for people's enthusiastic participation. some of the factors responsible for such a state of affairs are general backwardness of the people, absence of adequate number of dedicated persons, over emphasis on targets and time bound programmes, political interference and vested interests, easy availability of funds without proper planning and assessment of felt needs and safeguards for the community, distrust of agencies and workers who do not have a base in the community

Centralization in Urban Areas

NGOs are more developed in urban areas as compared to rural areas. the backwardness and ignorance of the rural people and lack of enthusiasm among social workers among them in the absence of availability of minimum comforts are the two important reasons for the backwardness of the NGOs in rural areas.

Lack of Coordination

The absence of coordination between NGOs existing at local, state and national level has laid to the common problems such as overlapping, duplication non-coordination etc,The absence of such a common forum also incapacities NGOs to offer united stand against the government when it humiliates them by extraneous considerations at the behest of politicians and egoistic government officers

Lack of Volunterism/Social Work among Youth

The basic characteristic of NGOs is volunteerism. In early days, youth are making their career in volunteerism but that enthusiasm seems to have faded these days. The extent of volunteerism is declining day by day and turning it into professionalization. This leads to lack of efficient volunteers in NGOs

Modernization

Because of modernization, professionalization and introduction of management techniques, the traditional NGOs need certain minimum, infrastructure and administrative expenses

Remedies

- The government of India has to liberalize the rules and regulations of grants-in-aid and to sanction more grants to NGOs. At the same time, the government should appoint commissions of enquiry or committees to cross check the misuse of funds by NGOs.
- Young graduates from universities, colleges and schools has to conduct the public seminars, meetings, symposiums etc .and use the local media to advertise they importance of volunteerism, success stories of NGOs and encourage people to participate in voluntarism.
- The government of India has to introduce the success stories of great leaders and their styles of leader ship qualities, voluntarism, dedication and commitment towards social work in the curriculum of social work departments and in the school syllabus to build leadership qualities in the coming generation.
- There must be coordinating organization like association of voluntary association for rural development (AVARD), coordination council of voluntary association (CCVA) etc. to solve the problem of NGOs
- In india, 65% of populations belong to rural areas. NGOs, therefore, need to operate in rural areas on a bigger scale to enlist the cooperation of village people in making their lives better at the same time, these NGOs have to encourage the educated young graduates of rural areas to participate in voluntarism.
- NGOs being a welfare organization have to maintain high standard of quality in service. The government has to recognize those NGOs, by giving awards or rewards with additional grants.
- Monopolization of leadership should avoid. NGOs should recruit young and efficient people as leaders and retire the persons who are nominated members for very long tenures in any group or agency
- The government should revise the pay scales and allowance to the personnel of NGOs at the same time some special funds to be allotted for NGOs to train the personnel at the grass root level.
- The NGOs should use to latest technologies like internet, website etc. for rising of their funds. to have mutual associations to advertise their products and for the selection of efficient personals.

- The government or donor while sanctioning the grants for particular programme has to considered the interest of that particular NGO. According to NGOs interest of programme , the funds to be sanctioned.

Conclusion

NGOs are the ones who really intend to care the uncared sections and the people at the bottom of the social stratum. Ours is developing country which requires these types of committed, devoted and dedicated organizations for the development of the country. So the government, the leaders, the donors, the politicians and the people should this organization and help them to solve their problems at the grass-root level. Then only their services are undoubtedly commendable in the upliftment of the rural poor.

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CORPORATE E-LEARNING INITIATIVES: REVIEW AND RESEARCH FRAMEWORKS

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Abstract

This review of studies aimed to evaluate and report on determinants of corporate e-Learning conducted in the different industrial sectors. With review of ten empirical study reports conducted during 2001 to 2016 were analysed. Researcher made an earnest attempt to identify the key factors influencing on acceptance and use of e-learning among employees in corporate sectors. With intense analysis of methodology, objectives and key findings of the earlier research study, it was concluded that in order to fill the research gap identified by the analysis, researcher and organization should focus on exclusive study of 'employees using e-learning in workplace setting in India' covering all major key factors (independent variables) and moderating variables by adopting more rigorous, comprehensive model like UTAUT to test the reported phenomenon.

Keywords: *Corporate e-learning, and e-learning.TAM, UTAUT, workplace learning.*

Introduction

To meet the needs of today's highly competitive global economy, employees must have the latest knowledge and technological skills. Therefore, to cultivate a highly trained and educated workforce, organisations have invested substantial resources towards developing e-learning alternatives to traditional types of education and training systems (DeRouin et al. 2005, Bassi and Van Buren 1999, Rossett 2002). Training is considered to be a key educational practice and strategic organisational tool that is associated with higher profits and lower employee turnover. Many organisations have adopted e-learning solutions for their corporate training (DeRouin et al. 2005). The importance of workplace learning as an effective way for employees to acquire knowledge and skills for individual competence development as well as for organizational effectiveness has been widely recognized (Doornbos, Simons, & Denessen, 2008).

Corporate e-Learning has been emerging as a popular learning approach in organizations (Jia, et al. 2011), due to several benefits such as just-in-time delivery, flexibility to access, cost-effectiveness, and capabilities of integrating leaning into work (Cheng, Wang, Yang, Kinshuk, & Peng, 2011; David, Salled, & Iahad, 2012; Rosenberg, 2006; Sambrook, 2003). Currently e-Learning accounts for a significant proportion of corporate investments in training and development (Salas, Kosarzycki, Burke, Fiore, & Stone, 2002)

The evaluation of e-learning initiatives is not a straightforward process. Many factors contribute to the success of e-learning systems in general and corporate sector in particular. Such a technological learning environment should facilitate innovative learning opportunities and benefits, thus extending and not just replicating traditional learning approaches. Control and responsibility of the learning process should be gradually shifted from the educators to the learners.

The central purpose of this review is to evaluate and report on corporate e-Learning conducted in the corporate sectors. This paper organized as follows: First, introduction about learning and corporate e-learning. Second part consists of literature review. Third part includes discussion on various nature, methods, objectives and key findings of the literature. Finally, researcher identified the gap in present research study and given some directions for future research in this domain.

Theoretical Models

In the technology acceptance and adoption literature, a considerable number of models have been applied (e.g., the theory of reasoned action (TRA), the theory of planned behaviour (TPB) and the Technology Acceptance Model (TAM), unified theory of acceptance and use of technology (UTAUT)) to investigate and explore the determinants of user's behaviour towards adoption and using information technology.

Theory of Reasoned Action (TRA)

The theory of reasoned action was introduced by Ajzen and Fishbein first in 1975 and later in 1980 (Ajzen & Fishbein, 1980; Davis et al., 1989; Fishbein & Ajzen, 1975) within which the individual's attitude towards a given situation combines with subjective norms to shape the behaviour intention, which in turn influences the individual's actual behaviour. It has acted as a starting point for technology acceptance models (Davis et al., 1989).

Theory of Planned Behaviour (TPB)

The Theory of Planned Behaviour (Ajzen 1985, 1991) is a successor of TRA and it introduced a third independent determinant of intention, perceived behavior control (PBC). It is determined by the availability of skills, resources, and opportunities, as well as the perceived importance of those skills, resources, and opportunities to achieve outcomes (Kriponant, 2007). As Kriponant (2007) emphasised, by changing these three predictors (attitude, subject norm and perceived behavior control), the chance that the person will intend to do a desired action can be increased and thus increases the chance of the person actually doing it.

Technology Acceptance Model (TAM) (1989)

Technology Acceptance Model (Davis 1989) was the first model to mention psychological factors affecting technology acceptance and it was developed from Theory of Reasoned Action (TRA) by Davis (Davis 1989). Davis (1989) developed and validated better measures through TAM for predicting and explaining technology use. As shown in Figure 1, TAM posits that perceived usefulness and perceived ease of use determine an individual's intention to use a system with the intention to use serving as a mediator of actual system use. Perceived usefulness is also seen as being directly impacted by perceived ease of use. The underlying links between two key constructs and users' attitudes, intentions and actual technology usage behaviour, were specified using the theoretical underpinning of the TRA. Attitude and perceived usefulness jointly determine the behavioural intention and attitude is determined by perceived usefulness and perceived ease of use.

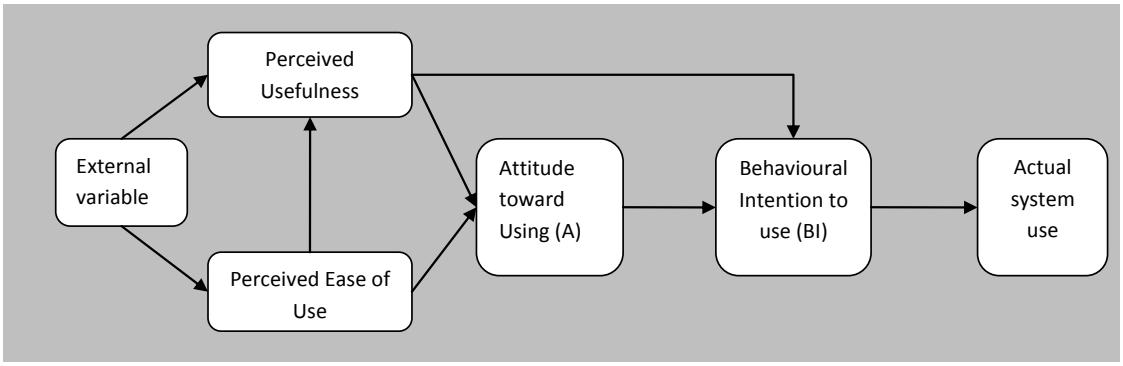

Figure 1 First modified version of TAM (Davis, Bagozzi and Warshaw, 1989, p. 985)

Source: Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User acceptance of computer technology: a comparison of two theoretical models. *Management science*, *35*(8), 982-1003.

Unified Theory of Acceptance and Use of Technology (UTAUT) (2003)

Combining the various theories and models of technology acceptance, Venkatesh et al. (2003) developed a unification theory in which they integrated the components of eight technology acceptance models and theories: TRA, TAM, the motivational model, TPB, combined TAM-TPB, the model of PC utilization, innovation diffusion theory and social cognitive theory. The UTAUT model used four main determinants of usage and intention; these are performance expectancy, effort expectancy, social influence and facilitating conditions. These stand alongside four moderators of gender, age, experience and voluntariness of use. This theory has been criticised for having too many independent variables for predicting intentions and behaviour (Bogozzi, 2007). However, it is considered to be more robust than other technology acceptance models in evaluating and predicting technology acceptance (Venkatesh et al., 2003).

Table 1 Review of Literature: Behavioural Intention to use e-learning

Sl. no	Author	Sample Size, Location & Model	Statistical techniques used	Objective	Key Results
1.	McFarland, Daniel J. (2001)	676 students, Industry and Professionals. USA. TAM+ Self-efficacy Theory	SEM-PLS.	To investigate the role of age and efficacy on computer usage behaviours and attitudes.	• The findings support the validity and appropriateness of the TAM and Self-Efficacy Theory for explaining computer usage in academic setting. • *Age* plays a strong role in understanding computing behaviours and attitudes.

2.	Ong, C. S., Lai, J. Y., & Wang, Y. S. (2004).	140 Engineers. 6 International companies, TAIWAN. TAM.	CALIS (Procedure of SAS 8.1).	To examine the applicability of the technology acceptance model (TAM) in explaining engineers' decisions to accept e-learning, and address a pragmatic technology management issue.	• Computer self-efficacy appeared to be a significant determinant of PU, PEOU, and perceived credibility. However, computer self-efficacy had a negative effect on perceived credibility. • PU was found to be the most significant factor affecting users' acceptance of e-learning. • PEOU and Perceived credibility were found to have the most significant effect on behavioural intention to use e-learning.
3.	Hashim, J. (2008).	261 employees. Various Company, MALAYSIA. TAM	Correlations. Regression analysis.	To test the TAM in a developed country, namely Malaysia, to find out whether Malaysian attitudes towards web-based training are similar to those in the West.	• PEOU, perceived comfortableness and PU are found to be positively related to the employees' attitude towards adopting web-based training. • These findings mirror Western studies and suggest that the technology acceptance model, developed in the West, is also applicable in Malaysia.
4.	Mital, M., & Mehra, P. (2008).	194 Employees. Public and Pvt. Banks. INDIA.	PCA, KMO Bartlet Test, Mean, SD.	To investigate, whether e-learning is more effective when learners are able to exercise control and effectively regulate their own learning in flexible learning systems.	• e-learning is more effective when it is self-directed and the learner involvement, as well as learner control. • E-learning is effective when the learning process recognises the centrality of the learner as the initiator, controller and beneficiary of the learning that takes place.
5.	Garavan, T. N., Carbery, R., O'Malley, G., & O'Donnell, D.	557 Respondents of 275 org. (MNC. Public secto, SMEs) TRA, TPB	SEM	Tto understand employee participation in e-learning in	• Learner motivation was crucial for participation in e-learning;

	(2010).	UK		organisation.	demonstrated the importance of appropriate instructional design.
6.	Joo, Y. J., Lim, K. Y., & Kim, S. M. (2012).	248 employees, KOREA TAM	SEM	To investigate the determinants of learning flow and achievement in corporate online training.	• The findings suggested that self-efficacy, intrinsic value, and PU and PEOU affected learning flow, while intrinsic value, test anxiety, and PU and PEOU were significant predictors of achievement. • PU and PEOU to be the most influential factor for both learning flow and achievement.
7.	Lee, Y. H., Hsieh, Y. C., & Chen, Y. H. (2013).	332 employees. Taiwannes Company. TAIWAN TAM	CFA, SEM.	To apply the TAM to examine the employees' attitudes and acceptance of electronic learning (e-learning) systems in organisations.	• TAM appears to provide researchers with a theoretically sound and parsimonious model, which can be used to predict employees' BI to use e-learning systems in organisations. • PU and PEOU affect employees' intention to use e-learning systems. • Both PU and PEOU are important factors in determining the acceptance of e-learning systems in organisations.
8.	Lee, Y. H., Hsiao, C., & Purnomo, S. H. (2014).	326 Students. Two University, INDONESIA. TAM.	SEM.	To empirically examine individual and system characteristics believed to influence students' acceptance of e-learning systems.	• Individual characteristics (computer self-efficacy and internet self-efficacy), play an important role, indirectly affecting perceived intention to use e-learning. • The system characteristics (learning content and technology accessibility) have been found to significantly influence learners' acceptance

					behaviours. • Both PEOU and PU were found to be significant predictors of perceived intention to use. • Additionally, PU was found to have more predictive power than PEOU on behavioural intention to use.
9.	Fathema, N., Shannon, D., & Ross, M. (2015).	560 Faculty members, Two Universities, USA. Extended TAM.	Pearson Correlation. CFA SEM	To study factors that affect faculty members' LMSs usage behaviour, focusing on user related variables and their pivotal role in determining faculty attitudes toward LMSs.	• The three proposed external variables: system quality; perceived self-efficacy and facilitations conditions were significant predictors of faculty attitude towards LMSs. • Confirmed the validity of the extended TAM in determining users' technology acceptance behaviour.
10.	Abdullah, F., Ward, R., & Ahmed, E. (2016).	242 Undergraduate Students, UK. TAM	Correlation analysis.	To investigate the various key factors influencing on BI to use the system for learning.	• PEOU of the e-portfolio is Experience, followed by Enjoyment, Self-Efficacy and Subjective Norm. • The best predictor of student's PU of the e-portfolio is PEOU followed by Enjoyment. • Both PEOU and PU predict student's Behavioural Intention to Use the e-portfolio.

Source: Multiple sources

BI - Behavioural Intentions, EDT-Expectation Disconfirmation Theory KMO- Kaiser-Meyer-Olkin, LISREL - LInear Structural RELations (software), PLS- Partial Least Squares, PU-Perceived Usefulness, PEOU- Perceived Ease of Use, SAS – Statistical Analysis System. SEM - Structural Equation Modelling, TAM – Technology acceptance Model, TRA – Theory of Reasoned Action, TPB – Theory of Planned Action, UB-Use Behaviour.

Discussion

The above table -1 presents various empirical study conducted at different industrial sectors with key objectives, sample size of the study, model employed for the purposes of identifying and/or testing various key factors influencing accepting e-learning, statistical tools and techniques used to analyse the collected primary/field data and major findings of the study. Only the empirical studies conducted between the years 2001 to 2016 were selected for review and conceptual and theoretical analysis papers were excluded from the review. As per as topics and areas of the study is concerned, above table include studies conducted at educational institutions (Fathema, et al., 2015; McFarland et al., 2001)) and industrial settings. Along with higher educational institutions students, studies of engineers (Ong, et al., 2004), faculty members (Fathema, et al., 2015) and employees of high-tech companies, and large scale organizations are covered. Review covered studies from different countries like the USA, the UK, Taiwan, Malaysia, Korea, Indonesia, and India to analyse the consistency of results found across the culture and nations. Most of the researcher used technology acceptance model (TAM) as theoretical base model to study the key determinants of behavioural intention to use the e-Learning in the workplace setting (Abdullah, et al., 2016; Fathema, et al., 2015; Hashim, J. 2008; Joo, et al., 2012; Lee, et al ., 2013; Lee, et al., 2014; McFarland, et al., 2001; Ong, et al., 2004) and others used Theory of reasoned action (TRA), and theory of planned behaviour (TPB) as a base model for their analysis of factors influencing on intention to accept and use e-learning eco-system in their respective organizations.

In order to analyse the relationship exists between the key factors and behavioural intention to use the e-learning among employees and to find the influence of moderating variables (if any), authors of various studies used diverse techniques available for analysis of the data like correlation, regression analysis, and new techniques like structural equation modeling. Key findings of the various studies confirmed the validity of the TAM model to study employee's behaviour with regard to accept and use e-Learning in the organizations. Most of the studies confirmed that perceived usefulness (PU) and perceived ease of use (PEOU) will determine the employees' attitude towards use of e-learning in the organization. (Fathema, et al., 2015; Hashim, J. 2008; Joo, et al., 2012; Lee, et al ., 2014; Lee, et al., 2013; Ong, et al., 2004). Along with these two TAM constructs, other factors like perceived credibility (Ong, et al., 2004), perceived comfortableness (Hashim, J. 2008), self-efficacy, intrinsic value, and anxiety (Joo, et al., 2012), system characteristic (learning content and accessibility of technology) (Lee, et al ., 2014), facilitating conditions (Fathema, et al., 2015) enjoyment, subjective norm (Abdullah, et al., 2016) found significant positive impact on employees behavioural intention to use e-Learning and some of the moderating variables like age (McFarland, et al., 2001) education, gender and experience will moderate the relationship between perceived usefulness to behavioural intention to use and perceived ease of use to behavioural intention to use e-learning in corporate sector.

Implications and conclusion

From the literature review in relation to e-learning in corporate sector/ workplace setting concern, major findings of the studies confirmed that only a few studies (only one) conducted in India compared to other countries.

As per as number of employees included in the study is vary between 140 t0 676 employees / students. That shows more studies are required to validate the previous research results. Most of the studies relied on TAM and extended TAM model as basis for their study, very few studies used TRA and TPB models, this results in dependency on too many models for e-learning study and shows lack of well-built theoretical model for e-Learning acceptance model as base for the study.

Technology acceptance model variables like perceived usefulness, perceived ease of use influence the behavioural intention of employees to use the e-learning in workplace setting by the side of this other variables like perceived credibility (Ong, et al., 2004), perceived comfortableness (Hashim, J. 2008), self-efficacy, intrinsic value, and anxiety (Joo, et al., 2012), system characteristic (learning content and accessibility of technology) (Lee, et al, 2014), facilitating conditions (Fathema, et al., 2015) enjoyment, subjective norm (Abdullah, et al., 2016) positively and significantly will influence on e-learning usage behaviour as reported by the various empirical study. Along with these predicting variables/ key factors influencing behavioural intention of employees, some of the mediating variables like age factors will moderate the relationship among key factors and behavioural intention to use the e-learning, So In order to fill this research gap identified in this analysis, researcher and organization should focus on exclusive 'study of employees using e-learning in workplace setting in India' focusing on covering all major key factors (independent variables) and more number of moderating variables like age gender, education, experience, nature of the job by adopting more rigorous, comprehensive model like UTAUT to test the reported phenomenon.

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AN EMPIRICAL ANALYSIS ON ASSET & LIABILITY MANAGEMENT IN TUMKUR GRAIN MERCHANT CO-OPERATIVE BANK-TUMKUR

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Abstract

The prominence of Asset & Liability Management (ALM) in the banking operation is unavoidable and requires special attention during the course of operation. The attention would help the bank get into liquidation and can survive in the long run successfully. The study shows that the bank must improve their customer service and technical expertise that they will come up with the standard level. According to the least square method the Net Profit is expected to increase next five years. This study reveals the findings and recommendations which would be useful for the development and improvement of Tumkur Grain Merchant Co-operative Bank-Tumkur.

Introduction

Asset and Liability Management: (ALM)

ALM can be defined as a instrument to tackle the risk faced by a bank due to a disparity between assets and liabilities either due to liquidity or changes in interest rates. Liquidity is an institution's capacity to meet its liabilities by converting their assets. Apart from liquidity, a bank may also have a difference due to changes in interest rates as banks typically tend to borrow short term and lend long term.

The ALM contains all deposits and advances, maturity of deposits and incremental assets and liabilities, etc. It is a decision making responsible for balance sheet preparation from risk and return standpoint including the strategic management of liquidity, interest rate risks. The business and risk management approach of the bank must ensure that the bank operates within the limits set by the Board. Besides supervising the risk levels of the bank, there should be a appropriate review the results and progress in fulfilment of the decisions made. In future business strategy decisions must be eshtablished on the banks current rate of interest. In respect of the funding policy, for instance, its responsibility would be to decide on source and liabilities mix or the assets sale. There must be efficient administration of short term, medium term and long term deposits, loans and advances, borrowings and investments etc.

Need of ALM

ALM divisions build a suitable related risk and return management process. The right mix between skills and risk factors must be identified, expected outcomes of the activities known and appropriately established. The method adopted requires to be aligned to the actualities of the market. A co-operative bank needs to realize that the precise level of asset and liability need to be committed to support the function.

The Process of ALM

1. ALM information system: This includes the accessiblity of information accuracy and its adequecy.
2. ALM organization: Setting up of ALM committee and administrative set up at various levels.
3. ALM process: Management of liquidity risk, interest rate risk, market risk, trading risk, capital planning and profit planning.

Objectives of the Study

1. To study about the management of Assets and liabilities of the Tumkur Grain Merchant Co-operative Bank
2. To study about the effectiveness and performance of the Bank by the way of managing ALM
3. To suggest measures for the improvement of Tumkur Grain Merchant Co-operative Bank

Research Design

The methodology used in the study is analytical and descriptive in nature

Data Collection Method

Secondary Data: The secondary data has been collected from the Annual Reports of the Tumkur Grain Merchant Co-operative Bank.

Tools Used for Analysis of Data

- Ratio Analysis
- Method of Least Square- Regression Analysis

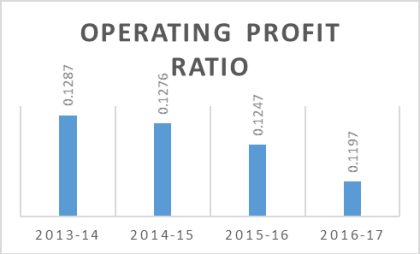
Literature Review

1. A Study On Asset And Liability Management In Salem Co-Operative Bank, Ms. S. P. Sreekala, Namex International Journal of Management Research, 2015: In this study researcher has used various ratios and found that variations in net profit liquidity level and net worth of the bank and concluded that If they improve their customer service and technology they will come up with the standard level.
2. Prof. Vaidyanathan(IIM) (1999) discussed many issues in Indian context in asset-liability management and elaborates on various categories of risk that require to be managed by banks. Indian banks in the initial stages were primarily concerned about adhering to statutory liquidity ratio norms; but in the post liberalization era where banks moved away.

Data analysis:

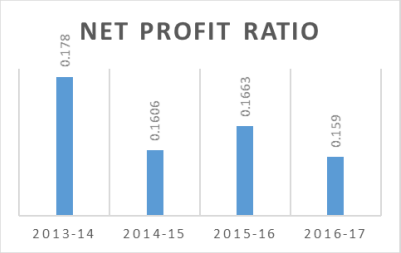
Calculation of Operating Profit Ratio:

Operating Profit Ratio			
Year	Operating Income (Rs. in Crore)	Total Income (Rs. in Crores)	Ratio
2013-14	22.34	63.87	0.1287
2014-15	24.13	81.75	0.1276
2015-16	13.92	105.79	0.1247
2016-17	10.87	127.20	0.1197



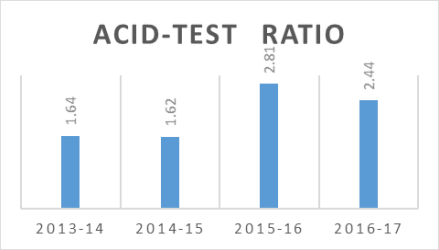
Calculation of Net Profit Ratio

Net Profit Ratio			
Year	Net Profit (Rs. in Crore)	Total Income (Rs. in Crores)	Ratio
2013-14	11.37	63.87	0.1780
2014-15	13.13	81.75	0.1606
2015-16	17.60	105.79	0.1663
2016-17	20.23	127.20	0.1590



Calculation of Acid-Test Ratio

Acid-Test Ratio			
Year	Current assets (Rs. in Crore)	Current Liabilities (Rs. in Crores)	Ratio
2013-14	77.76	63.87	0.1780
2014-15	94.26	81.75	0.1606
2015-16	17.60	105.79	0.1663
2016-17	20.23	127.20	0.1590



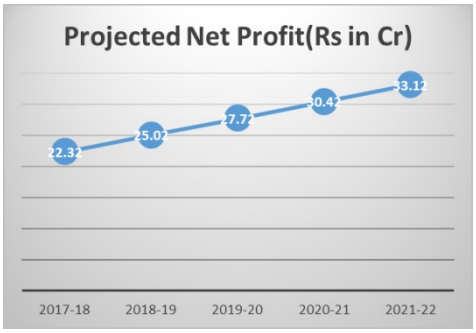
Regression Analysis: Calculation of Least Square Method

Year	Net Profit (Rs. in Crore) (Y)	X	x^2	XY
2013-14	11.37	1	1	13.37
2014-15	13.13	2	4	22.26
2015-16	17.60	3	9	52.8
2016-17	20.23	4	16	80.92

The straight line for the sales trend is assumed to be Y = a + bx

$\sum Y = na + b \sum x$

$\sum xy = a\sum x + b\sum x^2$



Using the above two equation calculate a and b values

a = 8.82 b= 2.7

Y = 8.82 + 2.7 x

When x = 5 (2017-18) then Y = Rs.22.32 Crores.

x = 6 (2018-19) then Y = Rs.25.02 Crores.

x = 7 (2019-20) then Y = Rs.27.72 Crores.

x = 8 (2020-21) then Y = Rs.30.42 Crores.

x = 9 (2021-22) then Y = Rs.33.12 Crores

Findings

- Operating Profit shows that the ratio was fluctuating and decreasing every year.
- The net profit has been gradually increased from the year 2013 to 2016.
- Acid-test ratio has been showing increased trend in the last couple of years.
- According to the least square method regression method the Net Profit is expected to increase in the coming years.

Suggestions and Conclusion

- The operating profit margin ratio specifies how much profit a bank makes after paying for variable costs.
- It is expressed as a percentage of sales and then shows the efficiency of a bank controlling the costs and expenses associated with banking operations.
- Net profit ratio is a worthwhile tool to determine the overall profitability of the Bank. A high net profit ratio indicates the well organized management of the bank.
- In the above study The TGMC Bank has maintained the moderate net profit ratio of average 16%
- The higher the Acid test ratio, the more financially secure a bank is in the short term. On the other hand, a high or increasing acid-test ratio generally indicates that a bank is experiencing solid top-line growth, quickly converting receivables into cash, and easily able to cover its financial obligations.
- The study implies much scope for banks to improve profitability by monitoring and decreasing the short term liquidity
- To fill the gap of short-term liquidity, banks must market their borrowings at a higher rate of interest which reduces interest margin and profitability of banks.
- Banks have greater scope to manage interest rate risk through various techniques like the arbitraging process and using money market instruments.

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NEED AND BENEFITS OF KNOWLEDGE MANAGEMENT IN B-SCHOOLS

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Abstract

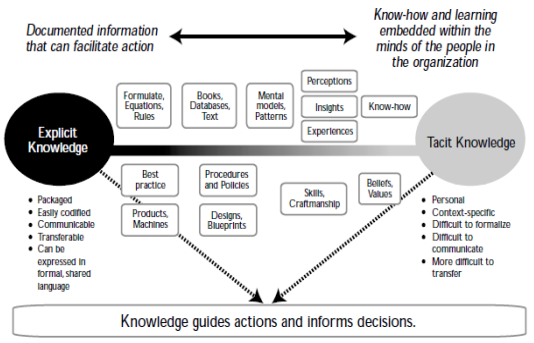
Implementation of Knowledge Management in industry has resulted in improved performance. Taking a clue from this, knowledge management application in B-Schools has been initiated. Starting with the definition of the knowledge and knowledge management, need and benefits of application of knowledge management in B-Schools are elaborated in this paper. Several components of knowledge management and challenges in the implementation of the knowledge management in B-Schools are deliberated and the solutions to the same are discussed. Further the advantages of the collaboration between academy and industry are highlighted.

Keywords: *Knowledge, Knowledge Management, Business School, Challenges*

Introduction

Knowledge is an important resource in the present economy. Institutions consider knowledge as an important asset for competitive advantage and manage the knowledge. Only those who can adapt to changes can remain and sustain in knowledge society. The knowledge that is generated in institutions is influenced to be adapted. This knowledge is used in academic potential that produce innovative solutions and leave the peers much behind in the institutions. Knowledge is of two types namely- tacit and explicit.

Figure 1: Tacit and Explicit Knowledge



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What is Knowledge Management (KM)?

Since 2000 onwards KM is popularly used. (Gupta) KM is a process of transforming information and intellectual assets in to value. Knowledge is made available to take action when user needs it. Knowledge is considered as key to generate breakthrough ideas. The real focus of knowledge management is on "doing the right thing" instead of "doing things right".

According to B. Gates (2000), "the knowledge management-is a very clever term to describe a very simple subject. You manage data, documents and the attempts of the employees. Your goal is to enrich the common work possibilities, including the exchange of thoughts, the usage of successful ideas and the coordination of actions towards the common goal. The management of knowledge must guarantee that the required knowledge will reach certain people at certain time, so that people can take certain actions."

Ramanujan and Kesh (2004) described KM as "an organization's ability to gather, organize, share and analyze the knowledge of individuals and groups across the institution in ways that directly impact performance". It is a process through which organizations generate value based on their intellectual capital.

Best Practices in Knowledge Management

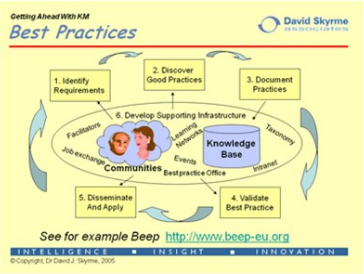

Fig 1:Best Practices in KM [9]

Best practices that are shared are heard as mantras in organizations, this way of doing is most prevalent in knowledge management initiatives. It is that the replication done in one part of an institution can be done in another part and it works best. This process can be applied to knowledge management itself in using the techniques and identify the knowledge management practice.

Km Tools and Techniques

Fig 2: KM Tools and Techniques in Knowledge Sharing Cycle [9]

The figure shows some tools techniques that are used in the knowledge sharing cycle

David Skyrme lists the KM process which consists of process of creating, discovering, sharing and learning and knowledge organization. Four knowledge management processes are identified namely-Knowledge acquisition, Knowledge organization, Knowledge distribution and Knowledge application.

(1) Knowledge acquisition is discovering the prevailing knowledge to what we know, gain from outside and create new knowledge. (2) Knowledge organization is the knowledge so acquired is organized and stored in database to access and utilize when required. (3) Knowledge distribution is the knowledge that is available at individual level has to be available at organizational level or societal level to be used. (4) Knowledge application is the knowledge once shared should be applicable for better return, create new knowledge and add new innovations to the database

In order to extract the tacit knowledge it is essential to have discussion with the persons who possess the expert knowledge in their mind. By this process the tacit knowledge can be collected and digitized and stored in the repository of the institution otherwise the tacit knowledge will be lost forever by the institution.

Knowledge Management – Benefits

1. Maintain the lead among competitors
2. Aids in innovation trends

3. Creating knowledge
4. Exchange and sharing of knowledge within and outside organization globally
5. Productivity enhancement by reducing unnecessary work
6. Capturing tacit knowledge
7. Collaboration enhancement in teaching, research and curricular development
8. Attract good faculty members from outside
9. Builds institutional brand
10. Time saving for Leadership teams
11. Leads to staff job satisfaction
12. Skill set enhancements leading to competitive advantage
13. Decrease dependence on individual's tacit knowledge

Challenges for Business Schools

- It is easy to start a Business school. Growth of new schools is through introduction of new courses. Normally branding is done in order to improve the value chain.
- A Mckinsey study (Farrell et al., 2005) reports that only 25% of all engineers, 15% of all finance professionals, and 10% of all graduates may be employed for general positions. Even though the Business schools rank second to US still many professionals are not having employment. Subsequent to this the corporations are coming out with their own courses designed; setting their own schools and equip them with the skills required in the industry. In order to avoid this type of in-house training in the corporate sector and also make the B-school outgoing students employable, the B-schools should approach the corporate sector to find the needs and prepare the students for employment. Thus the interaction between the B-schools and corporate sector will make the students employable and at the same time reduce the cost of training to the corporate sector. This type of academic and corporate interaction is very essential for the mutual benefit for both.
- Many of the courses taught in Indian B-schools have a foreign influence rather than the Indian context. Indian B-schools have to develop courses that cater to the needs of the Indian industry. Over the years the contents of the course should be indigenous with case histories from the local industry. In the teaching curriculum resources in the novel areas like information technology and hospitality have all had borrowed cases. Some of the Business schools have been passive towards these budding areas and still the unattended remain. The Business schools should recognize the need and come up with short executive courses for the upcoming professionals. Teaching resources for the courses have to be developed in collaboration with the industry to suit the global needs that is to meet both the Global as well as Local needs. The case studies have to be taken from the local industry. Subject experts in the industry should be invited to deliver some inspiring lectures to the students. The needs of the industry like short executive courses for professionals have to be arranged to help the local industry. In this manner, the collaboration of academic and industry will have stronger bonding and mutual benefit.

- Much of the research in Business schools are of low-key consequently the consultants from industry have taken over the market survey and relevant research. The research topics for academics should be selected based on the needs of the industry. In this way actual inputs from the industry will be available for researchers in academic institutions.
- Development of faculty is a critical factor in Business schools, if not taken care attrition of faculty will take place along with the knowledge they have developed. Fresh graduates from the B-schools are employed as faculty in many B-schools without exposure to the industry. It is better that those graduates who are likely to take teaching jobs are exposed to the industry atleast for a year in order to know the good practices followed in the industry. Sufficient compensation for the faculty must be provided so that they do not leave the B-schools for better emoluments. As teaching and research are intellectual pursuits of an individual, a congenial atmosphere must be provided in the B-schools. All these will lead to job satisfaction to a faculty and produces more and useful output.
- Inspite of India being largest business education sectors, the contributions is not significant and the authors have not got much of the global recognition. While the Indians who work abroad has been able to develop theories and become popular because of the foreign university associations.

Conclusions

B schools should utilize both people and technology more effectively for developing competitive environment. In order to reach the goals like better students, good placements, job satisfied staff and faculties, the implementation of knowledge management is useful. To achieve the above goals at the earliest possible, information technology must be used for sharing of data and knowledge management. There are many challenges for Indian Business schools, many of their existence can be questioned given the tough competition they face in consultancies and corporate Business schools. If Business schools are to outsmart the competition, they must identify their core competencies and develop a model for sustainable competitive advantage.

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A STUDY ON EMPLOYEE UNDERSTANDING OF TALENT MANAGEMENT STRATEGIES IN SOFTWARE COMPANIES WITH SPECIAL REFERENCE TO CHENNAI CITY, TAMILNADU"

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Abstract

In business, due to the current emphasis on intangible assets such as brand names, innovation, creativity, and entrepreneurship, greater than in the past, the arenas of today cater to companies that can harvest the potential of their key resources. In the globalised competitive business environment, organizations have to get adapted to the dynamic business practices. Talent management is an important factor in the business strategy, as every organization virtually needs to aspire to respond to the changes in the business environment. Positive transformations are possible through the efficient implementation of talent management practices in the organizations. Hence, this research is carried out to evaluate the talent management strategy of employees in software industry with reference to Chennai District of Tamilnadu.

The main idea of this research work is to analyze the various factors influencing effectiveness of talent management strategy of the selected respondents in the study area as to know how the software industries look upon talent management as an instrument for developing employees and through them increase organizational performance levels.

Evaluation of talent management strategy is done in this research work related to Attraction, Retention, Motivation, Development and career planning of the employees are collected in the form of opinions. A structured questionnaire was used for collecting the primary data from 900 employees of ten software industry with the help of statistical tool based analysis. Additionally, in depth interviews were also conducted to the respondents to supplement the primary data. The results are arrived based on the analysis of the research work using various statistical tools.

Based on the findings, recommendations were given to the organizations to overcome the problems identified and improve the efficiency of its talent management importance by implementing talent management strategy to the employees, which may be dynamically pursued and made essential. Companies are making sincere efforts to retain their employees through performance-linked benefits and better prospects to talented persons.

Introduction

In today's challenging business environment of going global and competition becoming strong, organizations have increasing pressure to perform better than before. To carry out this mission, organizations should develop and organize talented people who can clear the excitement and vision of their organizations. Though functional quality, technical competency, marketing ability, power and coerce are always important, talent-intensive organizations also need soft skills that help carrying out across departments.

Not only Software Companies, no organization can rest in peace under the hypothesis that once they have recruited the employee in position, their job is done. The real challenge that is faced by these industries is not hiring the right person for the right job, neither their Performance Management System, nor their Work Climate nor Culture, but in retaining the employee. It is proven further than disagreement that it is the people who build or break the organization.

Managing the talent of key employees is important to attain the success in long-term by any organization. Talent management involves individual and organizational development in response to a changing and difficult working environment. It includes the formation and protection of a supportive, people oriented organization culture.

Talent Management Strategy to Create a High – Performing Workforce

Executives and HR management have always been focused on basic talent management—acquiring, hiring and retaining talented employees. But, to drive optimal levels of success, business leaders need engaged, high-performing employees. The key to inciting a workforce to greatness is to align your talent management with company strategy, define consistent leadership criteria across all functional areas, and identify specific competencies (analytical, technical, education, experience) to cultivate for continuing growth.

Business leaders who implement the best talent management processes are more prepared than their competitors to compete in the global economy and capitalize quickly on new opportunities. True success is only available when companies do more than adapt to long-term trends; they must be able to anticipate and jump on new opportunities before the rest of the market. A strategic talent management plan allows you to:

- Become "proactive" versus "reactive". Fill your critical talent management needs and address company and industry changes promptly;
- Identify essential skills to be developed in all employees, and minimize training costs by focusing on key development areas; and
- Improve your recruiting process by identifying high-quality candidates using job descriptions based upon the expertise of your high performing employees holding uniquely valued company or industry competencies.

Shortage of Talent in Developed Countries Despite the current economic downturn and unemployment, most developed countries, including the United States, Germany and Japan will face long term talent shortages mainly due to ageing and the retirement of baby boomers. There are more workers retiring than entering the labor force in these countries. By 2020, for every five retiring workers, only four new workers will join the labor force in most developed countries. According to one estimate the United States will need to add 26 million workers to its talent pool by 2030 to sustain the average economic growth of the two past decades (1988-2008) unless a technological breakthrough replaces manpower, while Western Europe will need to add 46 million employees (World Economic Forum, 2010). The shortage of workers is predicted across most industries, including manufacturing, construction, transport and communications, trade, hotel and restaurants, financial services, IT and business services, health care, public administration, and education.

Challenges and Trends in Human Capital Management

The last 20 years have been difficult for the public service. We have seen too many reforms leading to too few results, too much rhetoric, too many keepers of single truth, and not enough

wise leaders. Over the last 20 years, new forces such as globalization, information technologies, and innovation have transformed the way we think about governance, the role of government and the work done by public sector institutions. Both developed and developing countries have undertaken wide ranging reforms. Some have been remarkably successful; others not. We have seen progress on many fronts in different parts of the world, and we have also made enough mistakes that it should now be possible to look back and assess the lessons learned, as we turn our attention to the challenges ahead. Some resounding reform successes are worth noting:

- The construction and expansion of the European Union is one of the greatest achievements of our time in building a governance system based on progressive economic integration, democratic principles and human solidarity;
- The transition from an apartheid regime to a democratic society that guarantees equal rights to all citizens in South Africa has given hope to many who are leading ambitious reforms; and
- The successful transition from centrally planned economies to market economies in countries such as Slovakia, Hungary, Poland, etc. is showing the way to others.

Recent Government's Hr Policy

The government's HR policy appears putting importance towards education & skill development of Indian youth (male & female). Education leads to enlightenment and empowerment. Educated and enlightened women employees will be self empowered to understand their rights and duties. The biggest changes bought through amendment of labour laws like laws related to PF, Maternity Benefits etc. and many more in row will definitely put HR in testing times.HR is nowadays an integral part of business, every small or big decision impact HR function which is putting in compliance function to make things operational and make the things work.

Statement of the Problem

In an organization, there is nothing more important than fitting the right employee in the right place, or else you would be trying to fit a square fix in a surrounding gap. When people do jobs that presently don't suit their liking, preference or temper, the results, or rather the lack of them will be clearly unfortunate. Low productivity, dissatisfaction, low morale, absenteeism and other negative behaviors will become usual till the employee is revealed the door. Otherwise, there is another option –Talent Management, which is a aware, conscious approach undertaken to attract, develop and retain people with the skill and abilities to meet current and future organizational needs.

Organizations need to have a vision and a well defined strategy on hiring for the future. India has become the outsourcing resources of the world and this has produced its own set of HR challenges. India's biggest problem is that potentially qualified graduates are becoming inadequate. Despite large population, the supply of graduates cannot keep up with the roughly increasing demand.

Objectives of the Study

In the present study, the objectives framed to guide the research process are as follows:

- To identify cause and level of talent management strategies among the employees in software industry.
- To examine the employees attitude towards job environment and talent management strategies in software industry.
- To study the employees opinion towards working relationship with respect to demographic sactors.
- To suggest suitable measures and strategies of talent management and strengthening the work environment in software industry.
- To analyse the coping strategies of talent management among employees in software industry.

Methodology

Sample Data

The present study is an empirical research based on survey method. The collected data for the study are both primary and secondary. While the primary data were collected from the employees through a well-structured questionnaire, the secondary data were gathered from the national and international journals, on line journals, previous research studies, magazines, articles and other records. The information gathered from primary sources is covered the respondent's perceptions on strategic talent management contents, process and context and their evaluation in terms of talent management program and its impact on organizational activities and performance.

Sample Respondents

The term Population is defined as the "total collection of individuals or objects that forms the focus of the research", whereas the sample is "a selected part or a subset of the population (Pretorius 1995). According to Pretorius (1995), research is generally conducted to make inferences about the population based on the information available about the sample, in order to make inferences from the sample to the population. A number of formulae have been formulated for determining the sample size depending upon the availability of information. The researcher has used the below mentioned formulae for calculation of sample size for an unknown population based on the pilot study of 50 respondents from IT companies.

$$n = \frac{p \times (1-p) \times z^2}{E^2}$$

From the pilot study the exact number of agreed and disagreed respondents have been arrived and the same was substituted in the aforesaid formulae to determine the sample size. On the basis of proportion of agreement status of the respondents (p) in the pilot study comes around 80 per cent and the disagreement status of the respondents (1-p) accumulated into 20 per cent with the standard error (E) at 5 per cent for the confidence interval of 99.99 per cent

expressing the Z value of 3.719, the sample size 'n' was determined using the aforesaid formula is 885. Hence to reduce the sample bias and strengthen the sample, higher than the calculated sample size is assumed for the present study and it is fixed at 900. In order to collect the primary data from the IT professionals' prior permission have been obtained from various companies and structured questionnaire was administered for the same. Maximum of 1000 questionnaire was used to collect the primary data, the unfilled questionnaires are finally omitted and 900 duly filled questionnaires are included to successfully reach the expected sampling size.

Review of Literature

McKinsey survey, (2014), India is likely witness a shortfall of half-a-million people in the business process outsourcing industry. This will force IT companies in India to ensure that recruitment processes are aligned with retention strategies. Accordingly, some companies have been making a paradigm shift in their hiring process by focusing on competency frameworks and other relevant tools to retain talent. In some cases, companies recruit employees belonging to an older age bracket, for grant of a higher degree of employee stability and commitment.

M.Maya, (2015), managing talent in a global organization is much more complex and demanding than in a national level organization. And only few global corporations have come out with innovative strategies to handle the challenges related to Talent Management better. Talent Management should be part of the strategic decision making process of the organization, regardless of the business conditions. This paper investigates the characteristics essential for a good talent management system. For measuring the characteristics of Talent Management system in Indian Information Technology organizations, twenty five variables were measured. In the present study twenty five variables are reduced into seven factors which would explain the original data in detail. Principal Component analysis with vari-max rotation is used to group the factors. Keywords: India, Information technology, Characteristics, Talent Management, factors.

Hypotheses for the Study

- There is significant difference on various stages of talent management process among different level of age groups.
- There is a significant correlation among various HR measures adopted for talent management in software companies.

Analysis and Interpretation

Table No 1 Kruskal-Wallis Test for Factors Influencing to Join in the Present Organization based on Age Group - Mean Rank

Factors	<20	20-25	26-30	31-35	36-40	Chi-Square	df	Asymp. Sig.
Salary	448.31	440.01	468.42	491.83	414.46	3.268	4	.514 NS
Retirement Benefit	424.61	453.02	441.80	545.32	493.07	8.200	4	.085 NS
Career Development	470.64	444.08	455.72	405.66	499.43	3.171	4	.530 NS

Working conditions	456.66	457.18	437.41	398.09	528.54	4.073	4	.396 NS
Supervision/Management	435.06	460.15	443.12	397.36	582.96	6.946	4	.139 NS
Fringe benefits	421.45	467.95	432.35	411.93	597.29	10.704	4	.030*
Recognition and rewards	442.91	463.23	432.85	414.73	498.93	3.633	4	.458 NS
Job security	487.95	444.82	449.55	385.67	441.25	6.303	4	.178 NS
Company Image in the society	463.46	455.29	437.49	365.64	616.50	11.666	4	.020*
a. Kruskal Wallis Test								
b. Grouping Variable: Age Group of the Respondents								

*-significance 5%, NS-Not Significant

It can be seen from the above table that very high values of chi-square and very low values of p (<.05) for the factors Fringe benefits and Company Image in the society verify that there is no sufficient evidence to accept the null hypotheses and it is concluded that the distribution of ranking pattern is not same among respondents in different age groups on Fringe benefits and Company Image in the society factors influencing to join in the present organization.

But for all the other factors, Salary, Retirement Benefit, Career Development, Working conditions, Supervision/Management, Recognition and rewards and Job security the very high value of p (>.05), it is again verify that there is sufficient evidence to accept the null hypothesis and it is concluded that the distribution of ranking pattern is same among respondents in different age groups on all the factors Salary, Retirement Benefit, Career Development, Working conditions, Supervision/Management, Recognition and rewards and Job security influencing to join in the present organization.

Table No 2 Correlation Coefficient

S.No	Components	1	2	3	4	5	6	7	8	9	10
1	Performance Appraisal Method	1	.670**	.673**	.651**	.602**	.549**	.505**	.591**	.609**	.565**
			.000	.000	.000	.000	.000	.000	.000	.000	.000
2	Working Environment		1	.683**	.668**	.639**	.570**	.605**	.598**	.624**	.533**
				.000	.000	.000	.000	.000	.000	.000	.000
3	Career Planning and Development			1	.710**	.644**	.584**	.518**	.643**	.650**	.596**
					.000	.000	.000	.000	.000	.000	.000
4	Organizational Culture				1	.683**	.572**	.601**	.638**	.596**	.505**
						.000	.000	.000	.000	.000	.000
5	Training					1	.543**	.537**	.607**	.588**	.533**
							.000	.000	.000	.000	.000
6	Welfare Measures						1	.639**	.537**	.572**	.668**
								.000	.000	.000	.000
7	Health and Safety Measures							1	.585**	.569**	.510**
									.000	.000	.000
8	Leadership Qualities								1	.663**	.568**
										.000	.000
9	Job									1	.667**

	Satisfaction										.000
10	Employee Benefits and Policies										1

**. Correlation is significant at the 0.01 level (2-tailed).

The above correlation coefficient table 4.7.1 explains the significant p value at 1% significant level among various HR measures adopted for talent management in software companies. It is further noticed from the table 4.7.1 that there is a high positive correlation among all the ten study variables. It shows high positive impact of one variable on the other. It is concluded that perception on various HR measures is considered to be the major influencing factor which determines the successful adoption of talent management strategies in software companies.

Findings

- Age plays an important role in Fringe Benefits and Company Image in the Society. Salary, Retirement Benefit, Career Development, Working Conditions, Supervision/Management, Recognition & Rewards and Job Security do not have any significance among the age group. Above 30 years age group respondents were of the opinion that Fringe Benefits and Company Image in the Society is the main reason to join in the present organization, whereas below 30 years age group respondents do not think so.
- It is found from the correlation coefficient Analysis that In the case of various HR measures adopted for talent management all the selected ten independent variables are having high positive significant association with talent management.

Conclusion

Talent Management is providing a continuous opportunity for software industries to develop their organizational performance level. A strong talent management practice system helps to make good performer in the organization at employee's level. The software industry in Chennai district must concentrate to encourage a talent management approach to the employee's level and perform to supporting talent management practices to apply in the employee's level to improve the organizational performance level.

By implementing an effective talent management strategy, including incorporated data, processes, and analytics, organizations can help certify that the right people are in the right place at the right time, as well as Organizational willingness for the future. By delivering an improved employment experience to employees, organizations and HR departments particularly have a critical role to play in getting the best from employees, which is a key driver of act in today's economy.

Suggestions

1. Every organization needs to align their talent management system to their specific business requirements. There is no one way to do talent management;

2. Career path and development should be announced as one of the major corporate polices in order to motivate talent, and potential employees to contribute their resources for the company and their future.
3. Training and development program should be based on a corporate strategy in order to manage budget and employees 'efficiency. Open communication should be encouraged in order to decrease employees stress and increase creativity.

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"DIGITAL LANDSCAPE TO MAKE INDIA GO GREEN"

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Abstract

It is the era of "Disruptive technology". There is hyper competition in business world and what we see is a lot of developments in the world with 4G's speed and no doubt in just few days we may see 8G or 10G. Today India has paved its way to a digital platform and almost every activity in the country is happening digitalized, right from small vendors in a vegetable market to booking online movie tickets everything is on a virtual platform. Even human resource functions are bracing themselves to digital world core HR functions like recruitment is now marching towards go green mantra through digitalization concept. Today Applications are invited through online mediums like e-mail, online application forms of global talent pool. So the main focus of the study is on understanding the concept of the green recruitment, its impact on companies in creating brand image, its effectiveness on environment, to assess how it is achieved through the digitalization. The study also adds to the extant literature by discussing future direction of some Green Recruitment functions. Finally, the paper suggests some potentially prolific HR initiatives for Green organizations. The study is confined to such organizations which are using the ideology of Going Green through the use of Digital Platform. The paper largely focuses upon the simplified meaning of Green Recruitment. The study also adds to the extant literature by discussing future direction of some Green Recruitment functions. Finally, the paper suggests some potentially prolific HR initiatives for Green organizations. The study is confined to such organizations which are using the ideology of Going Green through the use of Digital Platform.

Keywords: *Digital Platform, Disruptive Technology, Hyper Competitive Business and Global Talent Pool.*

Introduction

Today world of recruitment has gone hundred percent "Digital". Every company wants best of the talent in the market in their basket of competence. The number of MNC's is increasing day by day therefore Recruitment function is a full fledge activity. The function of recruitment is not at all easy it involves huge paper work and efforts to manage data and information effectively. Such paper work can nowhere serve the company to reduce cost and increase efficiency. Increasing awareness for environmental concerns has made companies to embrace concepts like "**Green Recruitment**". Interesting part here is when everyone debates that technology is a bane not boon fortunately digital technology have made a way to save trees and reduce huge paper work which is involved in the recruitment process and other such activities. In general Green Recruitment refers to hiring candidates in an environment friendly manner, where in sustaining environment by reducing excess paper work involved. If every company starts adopting this concept we can see a huge positive impact on environment.

The trend now is "Digital Hiring", which focus on conducting recruitment process on a virtual platform avoiding mundane office and paper work. This form of hiring also brings greater flexibility and a standard form to maintain huge data and information without piling ledgers and files in the workplace. There are many forms of Green Recruitment like social media, online Interviews, online meetings, instant messenger, email and the list goes on and on. Recently, there has been observed an increasing awareness within business communities on the significance of going green and adopting various environment management techniques.

5 steps to a green recruiting strategy

1. Evaluate the green level of your organization and recruiting program
2. Use online application tracking software
3. Publish job openings in new channels
4. Switch to virtual interviewing
5. Identify potential employees with similar values.

Review of Literature

According to Fineman (1997-37), the environment belongs to everyone its damage is quintessentially a matter of broad consensual moral concern and organizational actors are as culpable as anyone else. So HR managers are requested to reconsider the implications of what their passive position to the environment could mean by giving them important role of shaping employees behavior in organizations and beyond.

Green HRM involves addressing the company carbon footprint by cutting down on sage of papers, reducing unwanted travel. Green HRM is about the hostile application of the concept of sustainability to organization and its workforce (Aravamudhan, 2012). It has been found out in various researches that HR department in many companies are increasingly greening their process to gain competitive advantage over others.

Malt bolch (2008), in his research has said spreading the word about sustainability initiatives may fall to more than one department but human resource plays an important role, it is important for human resource professionals to have conversations with employees and the community at large about the implications of environmental initiatives.

Stephen king (2004) started that the future of HRM will be built on innovation and creativity, in nutshell innovation and creativity approaches were needed towards quality life, environmental improvements through the healthy, sustainable, vibrant community theme.in summary it was said that money and support of employees can put HRM on the road to environmental sustainability.

Objectives of the study

1. To understand the concept of Green Recruitment.
2. To know its impact on employer branding and future direction of some Green Recruitment practices.
3. To identify its impact on Environment.
4. To assess how the concept of green is achieved through digitalization.

Need for the Study

As the corporate world is going global, the business is experiencing a shift from a conventional structure to a modern capacity-based economy which is ready to explore green economic facets of business this is been possible through digitalizing many functions which include heavy paper work. Today, Green Human Resource Management (GHRM) has become a key business strategy for the significant organizations where Human Resource Departments

play an active part in going green at the office. Therefore to understand various facets of Green Recruitment their advantages and impact on business, how it is achieved through Digital platform required a detailed study.

Why Green Recruitment?

India is in a stage where resources are depleting day by day. 3.5 billion to 7 billion trees are cut each year around the world to make paper and other fabrics. Papers are extensively consumed by business houses for various official works. Especially in India which has become hot favorite destiny and Investment hub for the world wherein big corporate houses are establishing their business in India we can observe that the resources are getting exploited which makes us think about the Environment. By adopting concepts like Green Recruitment and other such green practices companies can considerably contribute greater extent towards protecting the environment. One more major economical reason for adopting green recruitment is to reduce utility cost and other such cost related to paper work. One of the most important pro of green recruitment is it reduces the carbon footprint and save more number of trees.

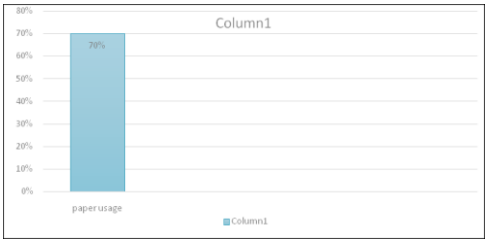
It makes recruitment process very effective and time saving. It brings improved public image and decreased environment impact. It also helps in preserving knowledge capital, increase business opportunities and many such advantages creating a huge employee branding.

Methodology

The study is primarily based upon the secondary data. This study is a conceptual one and descriptive in nature with a detailed review of literature. For this extant literature related to the topic from different databases, websites and other available sources were collected. A systematic review of collected literature was done in detail. Good journals and research papers were also required during the study.

Findings of the Study

- Social media Recruitment are widely used as major source of green recruitment where LinkedIn is used about 97%, Facebook 51%, Twitter 49%, and Google+ 19.9%.
- About 62% of company use Live Virtual Interviews and it also reduces candidates travel cost by 74%.
- 67% companies believe video screening should replace phone interviews all together, because it works
- About 52% companies feel that through green recruitment and other such green practices have given them a competitive edge and gain employer branding.
- Majority of the companies agree that by digitalizing the hiring process green recruitment can be made easy and it has helped their recruitment process to happen smooth.



Conclusion

It is not a hidden fact that human resource is the most important asset of an organization that plays an important role in managing the employees. At the moment, the recent increased trend of corporate focus on greening the business, the modern HR managers have been assigned with additional responsibility of incorporating the Green HR philosophy in corporate mission statement along with HR policies. This can be achieved only when there is a strong backup support of Digital Platform. Green Recruitment efforts have resulted in increased efficiencies, cost reduction, employee retention, and improved productivity, besides other tangible benefits.

Though the green movement and Green HR are still in the stages of infancy, growing awareness within organizations of the significance of green issues have compelled them to embrace environment-friendly HR practices with a specific focus on waste management, recycling, reducing the carbon footprint, and using and producing green products. Clearly, a majority of the employees feel strongly about the environment and, exhibit greater commitment and job satisfaction toward an organization that is ever ready to go "Green." The effects of Green Recruitment practices are multifaceted and require constant monitoring to recognize their potential impact on HRM issues. The responsibility of the present generations, HR managers are to create awareness among the youngsters and among the people working for the organization about the Go Green mantra and using Technologies for achieving such ideas, as well as aligning Digital Technology with Green movement!

The future of Green Recruitment appears promising for all the stakeholders of HRM, be it the employers, employees, practitioners, or academicians. We propose that Green Recruitment has substantial scope for research in management field but lacks behind in practice within academic arena; hence, there is a need to bridge the gap between professional Recruitment practices and preaches in research and teaching environmental management. Such studies can help organizations to reduce degradation of the environment become healthier both physically and financially and, make the world a cleaner and safer place to live.

On the concluding note, we would like to add that HR is the major role player in implementing Green Recruitment and other green practices and policies. Apart from this, they have a crucial role to play in recruitment of new employees who are more responsible toward green business practices thus, indirectly saving the Earth. Last, but not the least, HR has significant opportunity to contribute to the organization's green movement and plays

important role in enthusing, facilitating, and motivating employees for taking up green practices for greener business.

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EFFECTIVENESS OF SOCIAL MEDIA IN RECRUITMENT PROCESS AT DEUTSCHE BANK, BANGALORE

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Abstract

Social media is becoming an integral part of life online, as social websites and applications proliferate. In today's scenario social media networking sites has emerged in the business world and mainly the recruitment world, which leads to requirement for knowledge about the recruitment trends regarding social media sites. Social media aims at recognizing the effectiveness of social media sites. Recognizing the effectiveness of social media in recruitment process is the aim of this paper wherein Social media is mainly concerned with sites that Company hires only the most potential candidates in Deutsche Bank, Bangalore, who meet the job requirement and how effectively they pay major role in recruitment world. By doing survey in the company, knowledge was acquired of Deutsche bank, Bangalore. Wherein, it's mainly concerned with the social media sites that the company Deutsche Bank uses to hire the most potential candidates who meet the job requirement and how effectively they play a major role in recruitment world. This paper also tries to assess how employers can make best use of social media as part of the recruitment process and the study will assess the usage of Linkedln, Monstercom and other such websites that is used as an effective tool in the area of recruitment. Furthermore, this study will assess perceptions of recruitment through social media by determining what they find to be attractive or unattractive about the medium and message used.

Keywords: *Social Media, Recruitment, sources of recruitment*

Introduction

The social media phenomenon has opened up new paths of engagement and revolutionized the exchange of information. With more people engaging with social media, it is worth investigating its relevance to the recruitment process. Social media tools and social networking sites have revolutionized communication methods, both privately and increasingly, at work. Communication through social media involves the use of an online platform or website (a social networking site) that enables people to communicate, usually for a social purpose, through a variety of services, most of which are web-based and offer opportunities for people to interact over the internet, e.g. via e-mail and 'instant messaging' (a form of real-time, direct text-based communication between two or more people using personal computers or other devices). In terms of the use of social media for job seeking, Nigel Wright Recruitment (2011) found that more than half of all UK jobseekers use social media sites in their search for employment, including 18 per cent who use Facebook and 31 per cent who use LinkedIn (see box 2 in section 2.2 for examples of these and other social networking sites and tools). Young people are reported to be increasingly using social media tools in order to build an online career presence and search for jobs. A survey carried out by Potential park in 2011 of over 30,000 graduates, students and early career professionals worldwide found that in Europe, almost 100 per cent of survey participants would like to interact with employers online. The

preference was for LinkedIn (48 per cent), with Face book scoring 25 per cent (Potential park, 2011).

Background of Deutsche Bank

Deutsche Bank was founded in Berlin in 1870 as a specialist bank for foreign trade. On 22 January 1870 the bank statute was adopted, and on 10 March 1870 The banking license was granted by the Prussian government. The statute laid great stress on foreign business. The object of the company is to transact banking business of all kinds, in particular to promote and facilitate trade relations between Germany, other European countries and overseas markets.

Three of the founders were Georg Siemens whose father's cousin had founded Siemens and Halske, Adelbert Delbrück and L. Bamberger. Previous to the founding of Deutsche Bank, German importers and exporters were dependent upon English and French banking institutions in the world markets a serious handicap in that German bills were almost unknown in international commerce, generally disliked and subject to a higher rate of discount than English or French bills

Deutsche Bank AG (literally "German Bank"; pronounced is a German global banking and financial services company with its headquarters in the Deutsche Bank Twin Towers in Frankfurt. It has more than 100,000 employees in over 70 countries, and has a large presence in Europe, the Americas, Asia-Pacific and the emerging markets. In 2009, Deutsche Bank was the largest exchange dealer in the world with a market share of 21 percent. The company was a component of the STOXX Europe 50stock market index until being replaced on that index on August 8, 2016.

The bank offers financial products and services for corporate and institutional clients along **with private and business clients. Deutsche Bank's core business is investment ba**nking, which represents 50% of equity, 75% of leverage assets and 50% of profits. Services include sales, trading, research and origination of debt and equity; mergers acquisitions (M&A); risk management products, such as derivatives, corporate finance, management, retail, fund and transaction banking.

- Present CEO of Deutsch Bank is John Caryn effective from 2016 March. There are 4657 employees working in Deutsch bank Bangalore branch.
- The major competitors of Deutsch bank are BNP Paribas, Citigroup ,China Construction Bank Corporation , Bank of America

Vision: "Leading global investment bank with a strong and profitable private client's franchise"**.**

Mission: "To be leading global provider of financial solutions".

Product & Service Profile: Financial Advisors, Light Banking, Mortgages ,Real Estate, Asset Management, Equity ,Foreign Exchange, Commodities, Capital Markets, Trade Finance, Real Estate.

Awards and Achievements

- Best DR Program category award by EMEA.
- Deutsche Bank has been awarded for acting as the Depositary Bank for Lenta Ltd.
- **Won triple A "Best DR Program" In the year 2015, for its role on JD.com.**
- In Asia Pacific Deutsche Bank has won Asset Triple A in the year 2014.
- In the year 2013 in its annual achievement awards Deutsche Bank as won Best Depositary Receipt House of 2013.
- The awards, now in their sixth year, are an annual round-up of "the best deals and dealmakers" in the region. The proposals are analyzed and evaluated by EMEA Finance's panel of self-governing capital markets professionals
- Deutsche Bank's long-standing presence and commitment to the EMEA region and its bestin-class service has got it praise from clients and awards from the press. Deutsche Bank has won the Best Depositary Receipts Program two years in a row in EMEA Finance Achievement Awards, again in 2012 for Kcell Joint Stock Company's Depositary Receipt program - part of the first IPO deal from Kazakhstan for over two ages.
- Deutsche Bank has been awarded the Best Depositary Receipt Bank in Vietnam in the Asset's 2012 Triple An awards.
- The Asset's annual Triple a awards recognize the concerns and organizations that have made an important contribution to the growth of Asia's financial industry.

"Recruitment" is the procedure of finding out potential candidates for filling the genuine or projected vacancies in a business. Recruitment is the Integral part of Human Resource Planning of an organization arise, where in recruitment is a roller cost ride that going to wind up energizing innovation and advancement.

There are two sources of Recruitment

Internal sources: Recruiting the candidates within the organization which includes employee referrals, Job postings, Promotion etc.

External sources: Recruiting the candidates outside the organization which includes **a**dvertisement, Walk in, Internet etc.

Social media recruitment is the recruiting the candidates with the help of social media sites. Social networking sites not only helps to open opportunities for a job seeker previously heard of, but also for the organization where they can attract the most passive candidate as Per their requirement.

Social media recruitment is conceivably a feasible plan where many companies Determination to become accustomed in their general business strategy and will be very important in the future. Social Media recruitment has previously impacted and changed the nature of the time honored recruitment process. Availability to an enormous pool 'of active and passive job seekers, recruiters can access and contact potential employees with a simple click button. The study conducted to enhance the Skills in Social media in a recruitment process. The innovative planet, which we have entered, is a globe with fast changing technologies and these

changes open up new opportunities for companies to communicate and work. As an outcome of this steady modification of innovation and because of the developing significance of the Web, the wonder of Online networking enrolment has happened. The objective of this study is to gauge observations and responses to associations utilizing online networking as an enrolment technique. Since these destinations are allowed to join and regularly draw in numerous employment seekers and then again notwithstanding for associations where they could discover qualified competitors in pool.

Research Methodology

Objectives of the Study

- To analyses the effectiveness of social media in recruitment process.
- To recognize to what level the usage of social networking sites leads to effective recruitment.
- To figure out which social networking tools, the companies apply and gain insights about their expectation with different sites.
- To know how it can replace the job fairs & newspapers advertisement.

Scope of Study

This work is intended to analyse the effectiveness of social media in recruitment process at Deutsche Bank Pvt limited, Bangalore. The study which helps to understand how the recruiters use social media sites to hire the **potential candidates & also the society's awareness towards these professional sites that are** used for hiring purpose This study also deals in understanding how many businesses are getting into social media arena to recruit viable candidates for positions at their companies & having great success.

Research Design

Research design refers to a logical and systematic plan arranged for conducting a research studies. Research design monitors the investigator in the process of collection of analysis and in the interpreting opinion.

Type of Research

Descriptive research is adopted for the study. As descriptive research is the method of collecting Descriptive data and it helps in understanding the effectiveness of social media in recruitment of the viewers

Sample Unit

The sample unit for the study is based on employee responses. Prepared questionnaire about level of satisfaction of employees and answers were collected.

Sample Size

The 50 respondents were obtained from the population

Sample Technique

Simple random sampling technique is used for the study, and based on the questionnaire the study has been carried out.

Data Collection Methods

The data has been collected from:-

- **Primary data:** The primary data is collected through structured questionnaire to analysis the research work.
- **Secondary data:** The secondary data is collected through Books, Journals, Company reports, Websites

Statistical Tools Used: The following statistical tools are used to analyse the data

- Percentage Analysis
- Bar graph
- Pie Chart
- Correlations

Hypothesis

H0: There is no significant relationship between qualification & no of years of experience of employees

H1: There is a significant relationship between qualification & no of years of experience of employees

Review of Literature

- According to Cambridge Dictionaries **online, social media is defined as "forms of media which let people to interconnect and share facts using the internet or mobile phones" But with** the rise and massive popularity of sites such as Facebook, Linkedln, and Twitter there seems to be some misperception differentiating. Social media form social networks.
- Author Allen, Scoter, and Otondo(2004) concluded a study on social media recruiting. Based study conducted on 989 undergraduate students found that there is an direct effect on communication results, attitude, intension, & behaviours, related with potential employees of organisations & all these behaviour will have an impact while recruiting the candidates.
- Author Braddy, Foster & wuensch, concluded a study on social media recruiting. Their research found that maintaining a favorable recruitment image is related to begin successful when attracting potential employees. This study was conducted with regards to how favorably theses social media sites attracts the candidate the job seekers as well as the recruiters in order to make the recruitment process more effective.
- Author Sherrie. A. Madia accomplished a study on social media recruitment where the analysis was directed to explore how HR professionals can best use social media in their search for talent, here the recruiters mainly make use of social media sites appeal the candidate the job seekers as well as the recruiters in order to make the recruitment process more operational.

- Author Freeman & Author, 2002 also completed a study on social media recruitments where in the study was steered to find out how the organization achieve the entire database electronically. Using different job portal although hiring the potential candidates, here the recruiters mainly sustain all the database of applicants before showing and sourcing them. According to data base that has been entered, further procedure would be carried down, and finally they select the applicants.
- According to Antony Mayfield, vice president, head of content & media at Crossing,**"Social** media is best understood as a group of new kinds of online media. which share most or all of the following characteristics participation, openness, conversation, community, and connectedness. By "participation", Mayfield, highlights the statement that social media "shadows the line between media and audience" by inspiring assistances and advices "Openness" has to do, according to Mayfield (2008), with the statement that there are rarely any obstacles to retrieving social media and making use of its contents, creation it very easily accessible and open to anyone to use The "conversation" factor highlights the major difference between out-dated media and social media
- Santhosh Kumar A.V -Social networking websites are operative job search tools, job fairs are finding stiff competition in the social media, unmistakably been visible that a lot of companies have their own official pages on the social websites, where job hunters can learn about the association business, culture, from which they can search for potential employees. Essential part of the hiring process, Cost effective, does not involve setting up an agency and forms an actual tool for Recruiters. (Research Scholar, Bharatiar University, Lecturer, Department of Commerce and Management, Seshadripuram First Grade College, Yelahanka, Bangalore. Karnataka 2012.
- Poulami Banerjee - Recruiters are primarily using the SNS for searching talents in the middle management level positions, followed by top level mgmt. positions and before for lower level. The purpose being, for lower level positions there is plenty of talent offered in the market while for the top level positions not several personalities rely on these sites so experience has revealed the most profitable segment is the middle level supervisors .Linked In stands top in the list of the most required after recruitment site through social networking with52 % firms consuming it to shortlist applicants, followed by Facebook (25 %) while 23 % combination of both. Most of the specialists spend approximately21- 30 hours each week on these sites. Nearly 83 % of the firms feel that social networking sites will transform the trend of recruitment and will develop as a new age tool for recruitment. (Jagannath Institute of Management Studies 2012)
- ARCHANA L, NIVYA- Social media now stands as the second most prevailing source of hire, tied with corporate career websites. The paper determines with instead of trusting profoundly on external recruitment firms or job boards, many companies are concentrating on pinpointing expert talent through Social Media sites such as LinkedIn. Between 2011 and 2013, the percentage of employers who routine social networks to recruit candidates jumped after 29% to 42%. Other origins of hire such as Internet job boards, online resume

databases and college recruiting programs actually decreased between 2011 and 2013. The typical Facebook user now spends 15 hours and 33 minutes per month on Facebook. To keep up with the competition for uppermost talent, concerns must recruit with Facebook ads. Facebook Fan Page can serve as a recruiting and sourcing tool just like a company blog. 38% of job seekers use LinkedIn to help discovery work in 2012,.19% of job hunters had a interaction share a job on LinkedIn,11% of job seekers examined for jobs on LinkedIn and 79% of LinkedIn users are 35 or older; the average LinkedIn user is 40.5 years old. 60% of LinkedIn-using job seekers are male, 62% are under the age of 40, 51% earn more than $75,000 and 50% are college graduate.

- Author Dan Schawbel, the author of the book me 2.0 "Building influential brand to achieve career success "and also the proprietor of award winning personal branding blog has listedout 10 incredible sites to help the candidates in job search like Linked in, Twitter with blogs & linked in URL,Facebook ,Jobster and the like.

Limitations of the Study

- Data is directly collected from respondents which leads personal bias.
- Collection of data was difficult because of busy schedules of respondents.

Data Analysis and Interpretation

The table showing the Percentage of Respondents on the Basis of Age

SL No	Age	Respondents	%
1	< than 25	20	40%
2	26-30	12	24%
3	31-35	10	20%
4	36-40	8	16%
Total	**Total**	**50**	**100%**

Analysis: Based on above table we can see that 40% of respondents of less than 25 in age, following 24% of respondents between 26 to 30 age.

Table showing Qualification of the Employees Working in Deutsche Bank

Sl.no	Qualification	Respondents	%
1	Graduation	22	44%
2	post-graduation	20	40%
3	Others	8	16%
	Total	**50**	**100%**

Analysis: The above tables shows 44% of employees working Deutsche Bank are graduation followed by 40% are of post-graduation & 16% are of other streams.

Table showing Employees Work Experience in Deutsche Bank

Sl.No	No of yrs of experience	Respondents	%
1	< Than 1 Year	15	30%
2	1-2 years	13	26%
3	3-5 years	7	14%
4	6-10 years	10	20%
5	11 & above	5	10%
	Total	**50**	**100%**

Analysis: Based on above table 30% of employees are having less than 1 year of experience whereas 26 years of employees are having experience of 1 to 2 years & 6 to years are of 20%.

Table showing Source used by Deutsche Bank to Recruit the Candidates

Sl. No	Source of recruitment	Respondents	%
1	Newspaper	10	20%
2	Recruiters (Consultancy)	11	22%
3	Radio advertisements	1	2%
4	Specific recruitment websites such as monster	18	36%
5	Social media websites such as LinkedIn Facebook or twitter	10	20%
	Total	**50**	**100%**

Analysis

Above table shows that that 36% of employees prefer monster followed by 22% through consultancy & other websites like LinkedIn, Facebook & twitter. Majority of employees working at Deutsch bank prefer social media as main platform to hire the talented candidates as per the requirement.

Table showing Formal Policy of Covering the use of Social Media when Recruiting Candidates

Sl.No	Use of social media	Respondents	%
1	Yes	18	44%
2	No	10	20%
3	**Don't know/can't** Remember	22	36%
	Total	**50**	**100**

Analysis: The above table shows that majority of employees working in DEUTSCHE BANK says that they have formal policy of recruiting of potential candidates through social media.

Table showing Use of Social Media Website

Sl.No	Use of social Networking Website	Respondents	%
1	Daily	15	30%
2	Weekly	17	34%
3	Monthly	10	20%
4	6months	7	14%
5	Less than 6months	1	2%
	Total	**50**	**100%**

Analysis: Above table shows the majority of employees working in Deutsche Bank dependent on social networking website on daily basis to recruit the candidates.

Table showing percentage of recruitment that are being enclosed by social networking sites

Sl.No	%enclosed by Networking website	Social	Respondents	%
1	0-25%		9	18%
2	25-50%		20	40%
3	50-72%		10	20%
4	75-100%		11	22%
	Total		**50**	**100%**

Analysis: As per the above table majority of employees working in DEUTSCHE BANK Bangalore has given their opinion that almost 50% of recruitment is being covered by social networking sites like LinkedIn etc.

Table showing does Internal Hiring helps in Motivating Staffs when Compared to Hiring through Social Media

Opinion	No of respondents	%
YES	28	56%
NO	22	44%
Total	50	100%

Analysis: The table shows that 56% of employees working in DEUTSCHE BANK says that internal hiring works as motivation factor where as 44% of employees says no.

Table showing frequently used websites by company

Sl. No	Frequently	Used	Respondents	%
1	Facebook		13	26
2	LinkedIn		9	18
3	Twitter		12	24
4	Others (Please Specify)		16	32
	Total		50	100

Analysis: Based on above table it a show that says that majority of employees working in Deutsche Bank uses other online websites like monster & Naukri etc to recruit potential candidates.

Table showing what does your Company Look in Candidate on Social Networking Site

Sl. No	Skills Looks for while Recruiting	Respondents	%
1	Specific hard skills	16	32%
2	Professional experience	12	24%
3	Length of professional tenure	2	4%
4	Industry related posts	9	18%
5	Mutual connection	5	10%
6	Cultural fix	6	12%
	Total	**50**	**100%**

Analysis

The above table shows that majority of employees working in Deutsche Bank looks for specific hard skills candidates and professional experience candidates.

Table showing since Executing Social Media Recruiting, which of the following has Enhanced

Opinion	No of Respondents	%
Time of hire	16	32%
Quantity of candidates	10	20%
Quality of candidates	7	14%
Easy	7	14%
Cost	10	20%
Total	50	100%

Analysis: The above table states that that majority of employees working in DEUTSCHE BANK said that by enhancing social media recruitment time of hiring is reduced & also they can recruit more number of employees in short time.

Table showing Social Media used to Select Potential Candidates

Sl No	Potential Candidates	Frequency	%
1	Facebook	13	26%
2	Online Advertisement	11	22%
3	Twitter	09	18%
4	Facebook	7	14%
5	Linkedln	10	20%
	Total	**50**	**100%**

Analysis: Based on above table 26% of staff working in DEUTSCHE BANK says through face book they can select potential candidates where as 22% staff says through inline advertisement.

Table showing Candidates Profile on Social Media Sites while Screening them

Sl No	Media Sites While Screening	Respondents	%
1	I do not trust the given Information	30	60%
2	I fully trust the given Information	16	40%
Total	**Total**	**50**	**100%**

Analysis: Based on above table majority of employees working DEUTSCHE BANK says that content pasted in candidates profile while screening do not trust the information where as some people trust the give information.

Table showing Social Media Enable in Managing Recruitment Process

Sl No	Social Media Enable in Managing Recruitment Process	Respondants	%
1	Yes	50	100%
2	No	0	0
Total		50	100%

Analysis: Based on above table all 50 respondents working in DEUTSCHE BANK have agreed that social media will enable managing recruitment process. We see 100% results in above table.

Table showing How much would you like to Rate Deutsche Bank Hiring Process

Sl No	Hiring process of Deutsche Bank	Respondents	%age
1	0-3	10	20%
2	4-7	10	20%
3	8-10	30	60%
Total		**50**	**100%**

Analysis: Based on above table all the employees working in DEUTSCHE BANK have rated very good & agreed that DEUTSCHE BANK is relayed on social med to recruit the potential candidates.

Table showing which of the following is Updated using Social Media in Recruitment Process

SL No	Updated using	social	Respondents	%
1	Screening		10	20%
2	Sourcing		12	24%
3	Interviewing		18	36%
4	Introduction		06	12%
5	Assembling		04	08%
Total			**50**	**100%**

Analysis: The above table shows that majority of employees working in DEUTSCHE BANK said that interviewing & sourcing method as updated by recruiting through social media.

Correlation

HO –There is no significant relationship b/w qualification & No of years of working in organization.

H1-There is a significant relationship b/w qualification and number of years working in organization.

Paired Samples Statistics

		Mean	N	Std. Deviation	Std Mean
Pair 1	Qualification	1.72	50	.730	.103
	No of Years Working for Company	2.56	50	1.417	.200

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Qualification & No of Years Working for Company	**50**	**.115**	.425

Accept H1 when level of significance is less than 5%
Accept H0 when level of significance is more than 5%

Interpretation: Since the level of significance is less than 5% accept H1 hence it can be interpreted that there is a significant relationship between Qualification and number of years working in organization.

Summary of Findings

- 20% of age group between 31 to 35 are working in DEUTSCHE BANK more than >25 age group.
- More than 50% of male gender & female gender are working in DEUTSCHE BANK
- 44% of graduates said that graduation qualification is more than post graduated employees in DEUTSCHE BANK.
- 30% of analyst employees are the majority recruited to work in DEUTSCHE BANK rather than post graduated employees based on qualification.
- 36% of employees say that DEUTSCHE BANK uses social network as main platform but job websites is in majority.
- 44% of employees working in DEUTSCHE BANK say that recruiting the potential candidates through social media.
- 34% of employees working in DEUTSCHE BANK say that improvement of social networking can be improved by daily basis.
- 40% of staffs working in DEUTSCHE BANK have given opinion that half of the employees are enclosed by social media networking which says websites like linkedin covers the recruitment.
- 56% of employees in DEUTSCHE BANK say that internal hiring helps in motivating, staffs whereas more than half of the staffs are motivated without the intervention of social media networking.
- 68% of respondents says direct recruitment and selection is long process in DEUTSCHE BANK for efficient results of potential candidates.
- 32% of employees working in DEUTSCHE BANK uses website like naukri and monster more comparably to facebook with effect to find only the jobseekers.

- DEUTSCHE BANK uses frequently the social media networking to recruit potential candidates profile in order to gain greater knowledge whereas the internal hiring weakens to motivate the staffs working in DEUTSCHE BANK
- 32% of staffs working in DEUTSCHE BANK looks for the candidate who has specific hard skills rather than the qualification, professional experience considered for the potential candidate.
- Recruiting candidates through social media networking enhances the factors like time period quantity of the candidate and also the cost cutting through the effectiveness of improvement in social media networking.

Conclusion

With the existence of social media, the world of has changed forever. Social media networking sites are here to stay & the employers can achieve a vital benefit of hiring the most prospective candidate as per the requirement. The social media networking sites can recognize fresh tools that are available in course of time which allows hiring managers and employers to work together to take advantage of social media hiring. There is no doubt that social media has improved the recruitment process by making it more open and democratic; increasing the visible talent pool from which to engage and recruit. Having an intimate knowledge of someone's capabilities or knowing who the best person for a role is, however, can only be gained through personal knowledge of an individual and of a particular industry sector. You can't simply rely on who may or may not have an online profile and also that the information contained on it is true. It is unlikely therefore, that social media will replace the traditional recruitment methods in the near future.

It's also observed by HR specialist that social media sites are successful job tools and in few years down to line, Job ad in newspaper will be placed by the online job board. Therefore the recruiters can search large pool of candidates from these sour cues where they can hire the most prospective who match up w**ith the organization's job requirement.** The worth of social media recruitment helps you expand an overall outlook of potential candidates, offers huge search for ability pool time & cost saved in hiring process. DEUTSCHE BANK uses frequently the social media networking to recruit potential candidates profile in order to gain greater knowledge whereas the internal hiring weakens to motivate the staffs working in DEUTSCHE BANK.32% of staffs working in DEUTSCHE BANK looks for the candidate who has specific hard skills rather than the qualification, professional experience considered for the potential candidate. Recruiting candidates through social media networking enhances the factors like time period quantity of the candidate and also the cost cutting through the effectiveness of improvement in social media networking.

Suggestions/ Recommendations

The company deutsche bank should come across the use of mobile phone recruitment, as huge percentage of population now using smart phones where the recruiters can easily connect with the candidates. With the help of LinkedIn alone, The Company should try to recruit more potential candidates who meet with job requirement. The company DB can create their own

social media sites which are supplement to LinkedIn. The company should incorporate mobile technology into their social media sites. Company must concentrate on social media and attract candidates through social websites.32% of recruiters look for hard skills in the candidates recruited, they must be trained and company has to hire the skilled candidate who suits the job role.

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Annexure

Questionnaire

1. Age

- < Than 25.
- 26 – 30
- 31-35
- 36-40
- 40 & Above

2. Gender

- Male
- Female

3. Qualification

- Graduation
- Post-graduation
- Others.

4. How long you are Working for the Company?

- < 1 year
- 1-2 year
- 3-5 year
- 6-10 year
- 11 & above.

5. Within last five years, which of the following method the company has used as Its main platform of recruitment? (Please select one)

- Newspapers
- Recruiters
- Radio advertisements
- Specific recruitment websites such as monster
- Social media websites such as LinkedIn, Facebook or twitter

6. Does the company have a formal policy covering the use of social media when recruiting staff? Yes

- No
- Don't know/can't Remember

7. **How frequently does your company make use of these social networking sites for Recruitment?**

- Daily
- Weekly
- Monthly
- 6months
- Less than 6months

8. **What percentage of recruitment is being enclosed by social networking sites?**

- 0-25%^
- 25-50%
- 50-75%
- 75-100%

9. **Dose internal hiring helps in motivating the employee when compared to hiring through social media**

- Yes
- No

10. **Does your company make use of social networking sites for hiring the Candidates?**

- YES
- NO

11. **With a specific focus on social media, which social media website the company Used most often recruit?**

- Facebook
- LinkedIn
- Twitter
- Other

12. **Does the company ever view the profile of potential candidates in order to gain greater knowledge of them (aside from their education or qualifications)?**

- Frequently
- Always
- Sometimes
- Seldom
- Never

13. **What does your company look in candidate on social networking sites?**

- Specific hard skills
- Professional experience
- Length of professional tenure
- Industry related posts
- Mutual connection
- Cultural fix

14. Since executing social recruiting, which of the following has enhanced?

- Time of hire
- Quantity of candidates
- Quality of candidates
- Easy
- Cost

15. What kind of social media more preferably used to select your potential candidates?

- Facebook
- Online advertisement
- Twitter
- Facebook
- Linkedln

16. Has government interference in deciding the quotas for SC/OBC/PH/EXSM affected the manpower planning while recruiting through social media?

- Yes
- No

17. To what extent do you trust the content posted on the candidates profile on social media Sites while screening them?

- I do not trust the given information
- I fully trust the given information

18. Do you think social media enable and help in managing the recruitment process?

- YES
- NO

19. How much would you like rate DB Hiring process?

- 0 – 3
- 4 – 7
- 8 – 10

20. By using social media in recruitment process which of the following is most benefited.

- Screening
- Sourcing
- Interviewing
- Introduction
- Assembling