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PERFORMANCE MANAGEMENT SYSTEM IN A POWER PSU: A STUDY OF T.H.D.C. INDIA LIMITED**SHANTANU KUMAR BISWAS****DIRECTOR (PERSONNEL)****TEHRI HYDRO DEVELOPMENT CORPORATION INDIA LIMITED****RISHIKESH****ADITYA GAUTAM****DIRECTOR****VIDYA SCHOOL OF BUSINESS****VIDYA KNOWLEDGE PARK****MEERUT****ASHUTOSH KUMAR ANAND****MANAGER****TEHRI HYDRO DEVELOPMENT CORPORATION INDIA LIMITED****RISHIKESH****ABSTRACT**

Of late due to globalization and tough competition, organizations around the world are facing challenges of complex governance in both internal and external environments. Performance is the real litmus test for survival in the marketplace. Therefore, managing and measuring performance has become a big task for an organization, whether private or public enterprise. There have been efforts to devise transparent and efficient Performance Measurement System and lot has been achieved in this area but still there are issues. Performance Management System has become a very important process from the perspective of business alignment. In India, particularly in Public Sector Undertakings, Performance Management System has undergone a transition and is now more robust, result oriented, transparent and participative. Tehri Hydro Development Corporation (THDC) India Limited is a Schedule "A" Mini Ratna CPSE under Ministry of Power, Government of India. THDC has adopted and implemented some of the good practices under Performance Management System in order to make the system more effective. The present paper is a study of gradual shift in the Performance Appraisal System, different processes involved in Performance Appraisal Cycle and how performance is being managed, measured and what inherent challenges of the system are in selected Power Sector with special reference to THDC India Limited.

KEYWORDS

T.H.D.C., performance, performance management system, power PSU, governance.

INTRODUCTION

In today's world the only asset to gain competitive advantage for an organization is its PEOPLE. Organizations with talented and motivated employees are likely to get ahead, even in the age of cutthroat competition. Every organization performs with the help of its resources as men, machine, materials and money. Except man other resources are non-living but human resource is an active and generating resource in the process of production. Man utilizes man as a resource and other resources too in order to produce goods and services. If effective human resource is not available, other resources remain useless and unproductive. Out of all the factors of production human resource is the most significant factor of production and plays a vital role in maintaining productivity and quality. In case, lack of attention to the other factors may result in reduce profitability to some extent but non-performing and unmanaged human resource is a question mark on the existence of an organization. That's how managing human resource keeps an organization moving.

Human Resource Management (HRM) is as old as are the production, business and trade. With the pace of time, utilization of human and managerial skills which, initially, were more at unconscious level, have moved to more concerted, organized and formulated strategies and their implementation covering various aspects of HRM. In many, the performance management is one of such aspects of HRM which has gained importance and popularity in the last seven decades but the term performance management gained popularity in early 1980s. The term got its importance from the times when the competitive pressures at marketplace started rising and the organizations felt the need of introducing a comprehensive performance management process into their system for improving the overall productivity and performance effectiveness. It got recognition when total quality management programmes received importance for achievement of higher standards and quality performance. Tools such as job design, leadership development, training and reward system received an equal impetus along with the traditional performance appraisal process in the new comprehensive and a much wider framework.

Undoubtedly, human factor is important factor in organizations. One of the main management strategies of the organizations is to invest in employees. Organizations are seeking to develop, motivate and increase the performance of their employees in a variety of human resources applications (Gungor, 2011). Thus, performance management should be an important step in the organization's HRM system and influences employee performance and then to organizational performance.

Therefore, devising Performance Management System for efficiently managing the performance of employees is important. If there is no measure to performance, there will be no sign of feedback and continuous improvement. When employees monitor and assess themselves on their performance, then no lines can be drawn to link employee's contribution with organizational goals. At the end, there will be a large gap, which remains unfilled thereby affecting the organization's growth. An effective system should encourage collaboration, teamwork, and communication. It's crucial for businesses to have systems in place to identify, recognize, reward, and retain their top performers to achieve sustainable growth.

Performance management system is the key factor determining whether an organization can manage its human resources and talent effectively. Performance management provides information on who should be trained and in what areas, which employees should be rewarded, and what types of skill are lacking at the organization or unit level.

Performance management also provides information on the types of employee who should be hired. When implemented well, performance management systems provide critical information. The significance of performance management systems applies to any organization that wants to improve its services, including the corporate sector. It is indicated that in the corporate sector, as global and national competitiveness puts strong pressure on performance excellence and cost effectiveness at all organizational levels, integrated human resource systems, including performance management, have become an indispensable tool.

NEED OF THE STUDY

The rationale of the study is to find out the journey of Performance Management System in THDC India Limited and in general reference to other central power sector CPSEs, how the system has evolved in these years into a scientific system of managing performance and emerged as a tool for identifying performers,

interlinking training needs, performance incentive to PMS and find out various stages and inherent challenges of the system. How in the last few decades the Performance Management System has been utilized in THDCIL and other Power CPSEs to manage performance, link the performance of individual employees with the overall objectives of organization, initiate culture of performance planning, team work, motivate performers and identify the areas where additional efforts is required.

OBJECTIVES OF THE STUDY

The objectives of the study are mentioned below:

1. To study the process of performance management system followed by THDCIL
2. To understand the Normalization process and applicability of Bell Curve Approach in Performance Management System.
3. To ascertain the effectiveness of Performance Management System in THDCIL.

PMS IN PSUs: REFERENCE TO THDCIL

Post-Independence for rapid industrial growth and economic self-reliance a lot of emphasis was made on growth of Public sector Enterprises. Over the years, the government's participation in industrial and commercial ventures has come to be regarded as sine qua non for rapid economic growth. Public Sector Enterprises have been accepted as effective instrument of socio-economic transformation and economic development. Since independence, the growth of public enterprises, both at the central and State level has been phenomenal.

In 1965, Bureau of Public Enterprises was set up as a centralized co-coordinating unit, which would also appraise the performance of these bodies. The department acts as nodal agency for all PSEs and assists in policy formulation pertaining to the role of PSEs in the economy. It lays down policy guidelines on performance improvement and evaluation, financial accounting, personnel management and related areas.

In the government sector, focus on performance is now widely recognized as a key instrument for improving the delivery of services and infrastructure to the people.

An ideal system of performance management links development goals, policies, priorities, plans, programmes, projects, budgets, action plans and performance towards achieving the desired objectives. The system involves performance policy, performance goals, performance indicators, performance measurement, performance monitoring, performance evaluation, performance review, performance-based placements, incentives and disincentive and evidence based policy-making.

The strategic objectives of a performance system are to:

- Create a performance culture and ethos across public service in terms of shared values, outcome, orientation and best practices.
- Promote accountability of employees and organizations in using resources and ensuring that implementation objectives are met.
- Guide capacity-building development.

In recent years the Performance Management System in PSUs has underwent tremendous change. The system which was a closed system in past and termed as Annual Confidential Reports has now been replaced with Performance Appraisal/Management System and newer concept of Balance Scorecard. The emphasis is now not only on measurement of performance but interlinking the performance of individual employee with objectives of organization, with advent of the concept of KRAs (Key Result Areas) the tasks to be accomplished are planned in mutual consultation and in advance. The KRAs are SMART and the system not only measures the performance but also contributes in identifying gaps and filling the gap by coaching and training. Department of Public Enterprises in recent years have come out with several guidelines on Performance Management System and linked PMS with incentives as well. The concept of Performance Related Pay, which was introduced in 2007 wage revision of PSUs, has been linked with Performance Management System. PSUs have been directed to devise a robust and transparent Performance Management System. Almost all the PSUs including THDCIL have introduced new Performance Management System, which is not only robust and transparent but also devised in such manner to help organization identify performers, identify performance gaps, plan training and learning initiatives, devise incentives, reward employees, skill- upgradation succession planning and several other important areas.

DPE vide issuing guidelines for 2007 Wage Revision not only emphasized for devising a robust and transparent Performance Management System but also it introduced a system of Bell Curve wherein employees are categorized and rated as Outstanding, Very good, Good and Poor in laid down percentages. The concept of Bell Curve has been discussed later. DPE also issued guidelines regarding communication of Performance Appraisal Rating to employees thereby removing confidentiality involved in the process earlier.

The major emphasis through Performance Management System in PSUs now is not only on measurement of performance but its effective management for creating total ownership, accountability and generating a culture of performance in Organization.

KEY ISSUES AND CHALLENGES FOR PUBLIC SECTOR IN PERFORMANCE MANAGEMENT

ISSUES AT INDIVIDUAL LEVEL

1. Issues of Transfer in tough geographical locations being in Hydro
2. Issues related to Motivation for PMS being linked to Financial Incentive
3. Issues of imposition of Bell Curve approach in Performance Appraisal System
4. Issues related to non- payment of Performance Related payment owing to DPE formulae

ISSUES AT ORGANIZATIONAL LEVEL

1. Maintain a skilled and competitive human Resource
2. Inculcate an atmosphere of Performance
3. Reward and Identify Performers and Empower them to take future positions
4. Implementation of Bell Curve

PROFILE OF THDC INDIA LIMITED

Tehri Hydro Development Corporation India Limited (THDCIL) is a Joint Venture of Government of India and Government of Uttar Pradesh. The Equity is shared in the ratio of 75:25 between Government of India and Government of Uttar Pradesh. The Company was incorporated in July 1988 to develop, operate & maintain the 2400 MW Tehri Hydro Power Complex and other hydro projects. The Company has an authorised share capital of INR 4000 cr. THDCIL is a Mini Ratna Category-I and Schedule 'A' CPSE.

Its greatest strength is highly skilled and committed workforce of 2000 employees. Every employee is given an equal opportunity to develop himself/herself and grow in his/her career. Continuous training and retraining, career planning, a positive work culture and participative style of management - all these have engendered development of a committed and motivated workforce setting new benchmarks in terms of productivity, quality and responsiveness.

PERFORMANCE MANAGEMENT SYSTEM IN THDCIL

The world is a global village today where boundaries have diminished and due to liberalization of economy worldwide including India there has been tremendous change in the business scenario. Utmost utilization and effective management of human resource in era of competition is crucial and one of the tools to manage and motivate employees today is performance Appraisal System that has now been transformed to Performance management System.

To be competitive and to even retain market-share in the local economy, companies have to look beyond Indian shores and offer products and services of global quality and prices. This requires benchmarking of practices, standards of performance and efficiency in line with the worldwide competition. The performance

management has importance wherein companies have to monitor their performance factors affecting them on a proactive and hands-on basis (Rao, A Srinivasa, 2007).

THDC India Limited is a Schedule "A" Mini Ratna Central Public Sector Undertaking under Ministry of Power. Erstwhile the name of the Company was Tehri Hydro Development Corporation. The company was earlier into Hydro power generation but in the past few years it has diversified into Thermal, Solar, Wind power as well. The company has a stable financial performance earning profits and is known for its best HR policies and practices and also bagged several awards for it including SCOPE Meritorious Award for Best HR Practices. In the past few years company has revisited and modified several HR policies to synchronize them with the trends of time and industry standard. It has formulated and implemented several new policies and issued several guidelines one such improvement is in the field of managing performance of employees through Performance Management System.

Earlier the system of Annual Confidential report was closed system where the report was prepared by senior in confidential manner. The concerned employee who was rated by his senior was not informed of his rating and thus he was not given chance to know and improve upon.

Public Sector Undertakings function in a different atmosphere where skill, talent and potential of employees are to be nurtured properly and efficiently to gain competitive advantage over peer companies and sustain. These PSUs are further governed by guidelines issued by different agencies of Government who issue orders from time to time. There has been emphasis from the Govt. to bring in a culture of performance, its effective measurement and management to gain competitive advantage and transparency. Therefore, the govt. has issued various guidelines with regard to devising robust and transparent Performance Management System. While issuing directives with regard to pay revision of CPSEs in the year 2007, Department of Public Enterprises issued an Office Memorandum in 2008 in this regard vide which not only guidelines with regard to Pay scales were issued but Government introduced the scheme of Variable pay/ Performance Related Pay and directed the CPSE to devise a robust and transparent Performance Management System. Therefore, for the first time performance of an employee was linked to payment of incentive. Department of Public Enterprises also introduced a method of "Bell Curve" one of the forced ranking method wherein direction with regard to rating employees was also given.

However, the new Performance Management System was introduced in THDCIL during the year 2006-2008. This new system of appraisal was a shift from the old system of annual appraisal method. The new Performance Appraisal System introduced in THDCIL started with setting of targets/key result areas (KRA) in consonance with the business objectives of the Organization. The system gradually modified and several improvements were made with introduction of Balance Score Card for executives of Sr. Manager and above.

The process of Performance Management at THDCIL starts with Performance Planning:

PERFORMANCE PLANNING: This is one of the most important aspects of the Performance Management System. The Reporting Officer has to convene a meeting of the Executives working under them and discuss the expectations i.e. the work to be done and the specific targets to be achieved during financial year taking into account the MOU targets as well as departmental targets. While drawing the KRAs it should be ensured that the targets are specific, measurable agreed upon and time bound. The targets are set at equally challenging levels across departments. The task has to be differentiated based on their significance, complexity of the task, special skills and innovation required. Reference is made to MOU targets, Departmental targets/KRA directory for this purpose.

KRA DIRECTORY: A comprehensive KRA directory has been prepared in THDCIL. The KRA directory lists the result areas of the heads of the department from which the KRAs of the subordinates of the department flows. The KRAs of the subordinates cannot be different from that of the superiors of his department, which provides for downward flow of responsibility. Weightage are primarily assigned to each KRA depending upon the priority and importance of such KRA. The Reporting Officer should prioritize the task based upon SMART. Complexity of task, special skills, and innovation should be paramount importance.

TABLE 1.1: TASK BASED ON SMART

	Unacceptable	Acceptable
Specific	'try to improve efficiencies'	'increase efficiencies by 10%.
Measurable	'Improve customer satisfaction'	'improve customer satisfaction so that service complaints do not exceed one per week on average'
Agreed	Reporting officers should not dictate what the performance standard should be. Executive should be left to set their own targets.	Executives and reporting officers should collaborate and contribute to the planning of the performance standards.
Realistic	Performance standard those are unreasonable and unreachable. Performance standard those are set too low, diminishing the employee's motivation and removing the challenge of a job.	Performance standards should be consistent with the organizations corporate strategies. Performance standards should also be within the employee's skills and capabilities.
Time framed	A number of performance standards without any time frame or to be achieved all at once.	A time span for each task. The time frame must be realistic. A number of asks should be staggered through the period.

Balanced Score Card Based KRAs for (E6 To E7): This tool is being used for translating and deploying organizational strategy in performance. It provides a balanced view of an organization's performance strategy across the four perspectives - Financial, Customer, Process Improvement and Employee Learning and growth.

TABLE 1.2: BALANCED SCORE CARD BASED KRAs

Financial perspective: <ul style="list-style-type: none"> ➤ Takes into account the traditional way of valuing the business. ➤ Includes measures such as operating income, return on capital employed, economic value added, etc. 	Customer Perspective: <ul style="list-style-type: none"> ➤ Emphasizes on the increasing realization of the importance of customer focus and customer satisfaction in business. ➤ If customers are not satisfied, they will eventually find other suppliers that will meet their needs and in turn impact business.
Process improvement: <ul style="list-style-type: none"> ➤ This perspective allows the managers to know how well their business is running, and whether its products and services confirm to customer requirement. 	Learning and growth: <ul style="list-style-type: none"> ➤ This perspective includes employee training and organization's cultural attitudes related to both individual and organization's self-development.

*Balanced Scorecard was popularized by Robert Kaplan and David Norton in 1992

I. TARGETS BASED ON FINANCIAL PERSPECTIVE: The targets on financial perspective have two dimensions i.e. increase in revenue and reduction in cost. While all departments do not directly deal with increase in revenue, reduction in operating cost in terms of their departmental operating expenses is applicable to all departments. The KRAs which are quantifiable having financial implication such as saving in Cost or percentage utilization of budget or generation or project realization amount or any such financial aspects leading to savings/ revenue generation will fall under financial perspective. No other KRAs should be narrated under this perspective.

II. THE CUSTOMER PERSPECTIVE HAS TWO DIMENSIONS i.e. internal customers and external customers. All departments provide service to other departments thus departments receiving their service are their customers. OMS Departments has been assigned the work to carry out a survey on various service parameters with their customer department twice a year i.e. half yearly and annually before evaluation. Thereafter based on the formula devised by IE department final rating is conveyed to the concerned department.

III. TARGETS BASED ON PROCESS IMPROVEMENT PERSPECTIVE: This pertains to the targets to be worked out by the appraisee in consultation with the reporting officer for bringing about certain improvements in the work being carried out by them.

IV. TARGETS BASED ON EMPLOYEE LEARNING AND GROWTH PERSPECTIVE

This perspective has two parts as follows:

- i) pertaining to meeting the training requirement as per the company training policy and initiatives for creating a learning culture in the department and
- ii) Completion of annual appraisal of self and subordinates within the stipulated time.

The training imparted to the Sub-ordinates irrespective of being arranged by the department itself or through HRD department is to be narrated under the Employee Capability Perspective. This particular KRA is not applicable to those executives who are having no subordinates.

Midyear Review: Midyear review is an important process in which the appraisee can revisit the KRAs and goals in the light of reasons, which may be beyond the control of the appraisee. The review helps the Reporting Officer to review the progress of the agreed targets and provide early warnings of non-performance to the Appraisee improvement.

Annual Appraisal: The objective of annual appraisal is to discuss and arrive at real performance with respect to agreed targets. It is necessary that due discussions take place between Appraisee and reporting officer before Annual Assessment. It is necessary that Reporting Officer perform his role so that reviewing officer and Accepting Authority do not face any problem in objective assessment.

Appraisal of additional task/Self-assigned task: Under this column, special achievements of the Executives during the year are required to be recorded. Achievements like handling of emergency situations, process improvements, contributing articles, representing the corporation in competitions like Quiz, acquiring special competencies, acting as internal faculty for imparting training etc. should only form a part of this special achievements section. Reporting Officer can also assign specific task during the period under review and successful completion of the task can also form part of this section.

Competencies and Core Values: This section deals with assessment of functional/ technical or managerial competencies. There is Competency Assessment Rating scale on which the assessment is to be made.

For the executives at the level of E5 to E7 the concept of KRAs based on Balanced Score Card has been introduced. The executives are required to plan their performance keeping in view the spirit of MOU targets. There are certain functions which have KRAs directly linked to MOU and their targets shall be based on MOU targets. The targets are required to be measurable in terms of measurable quantity, measurable time or measurable level of service quality. The executives whose KRAs are not directly linked with the MOU Targets they have to frame up Departmental Targets in consultation with their Reporting officer.

While setting targets by the executives 4(four) quadrants viz. Financial perspective, Customer perspective, Process improvement perspective and Employee Learning Perspective are to be considered to bring a balanced approach in the working.

I. TARGETS BASED ON FINANCIAL PERSPECTIVE: The Targets on Financial Perspective have two dimensions i.e. increase in revenue and reduction in cost. While all departments do not directly deal with increase in revenue, reduction in operating cost in terms of their departmental operating expenses is applicable to all the departments.

II. TARGETS BASED ON CUSTOMER PERSPECTIVE: The customer perspective has two dimensions i.e. internal customers and external customers. All departments provide service to other departments thus departments receiving their service are their customers. Departments/ groups are required to carry out a survey on various service parameters with their customer department to arrive at their current satisfaction level.

The survey is carried out twice a year i.e. six monthly and annually before evaluation. The feedback shall be required from the "same peer group"/ customers during both the surveys. The concerned executives will develop a suitable feedback format for the purpose of survey in consultation with the HOD.

For Liaison Department, the feedback will be based from HOD/Internal Customers.

For HR, F&A Department the feedback will be based on survey from all the cross section of the employees.

III. TARGETS BASED ON PROCESS IMPROVEMENT PERSPECTIVE: This pertains to the targets to be worked out by the appraisee in consultation with the reporting officer for bringing about certain improvements in the work being carried out by them.

IV. TARGETS BASED ON EMPLOYEE LEARNING AND GROWTH PERSPECTIVE: This perspective has two parts i.e. i) pertaining to meeting the training requirement as per the company training policy and initiatives for creating a learning culture in the department and ii) completion of annual appraisal of self and subordinates within the stipulated time. The performance descriptor against these targets for 50%, 75% and 100% level of performance is also to be defined.

The Performance Appraisal report also has a section of Individual Training and Development needs where appraisee mentions the type of training and exposure required to enhance job knowledge and managerial skills.

NORMALIZATION

With the adoption of Pay Revision 2007 in THDCIL as per the direction of DPE all the executives of the Corporation are to be graded under Bell Curve Approach so that not more than 10% to 15% of the executives are graded as "Outstanding/Excellent" and 10% of the Executives should be graded as Below par for the purpose of distribution of PRP. These 10% executives will not be entitled for getting any PRP.

After the Final marks is given by the respected Accepting Authority and after the PMR disclosure process at each grade and PMR Appeal process is over the Normalization process starts. The Accepting Authorities at different levels are as under:

E2 to E5 Concerned General Manager of Higher Authority

E6 to E7 Concerned Directors or CVO

E8 to E9 CMD

The Performance score reflects the highest performance level within the cluster and ranking in accordance. Ranking is an important function, which is strictly adhered to facilitate in fitting each executive in Bell Curve. The finally approved scores are tabulated for fitting each executive in designated class i.e. Normalization Centers. Normalization process starts with the formation of Normalization Centres (NC) for different projects/units/departments. Preferably NCs are formed of each grade of executives if sufficient population is available. Otherwise more than one executives grades are clubbed in a particular NC. Subsequently, a three member committee comprising of representatives of Director(Tech.), Director(Personnel) and Director(Finance) is constituted.

Minimum population for applying Bell Curve in THDC has been considered at minimum 8. For less than 8 executives pertaining to more than one Accepting Authority in a particular grade are clubbed. Since every human being has unique tendency of assessment, it is likely observed conservative markings and liberal markings given by the Accepting Authorities. This is conspicuous in the case of E2 to E5 level executives where numbers of Accepting Authorities are too many and population is less than 8 specifically.

Normalization Committee takes care of this aberration by grouping the Accepting Authorities in such a manner that executives with liberal markings come in particular group(s) and executives with conservative markings come in other group and apply Bell Curve approach in the groups. Thus, liberal markings and conservative markings are brought on a common platform. All the graded executives pertaining to all projects/units/departments under different ratings are put together and sorted in descending order. Total executives falling under different rating groups are compared according to the Bell Curve Norms of the Corporation. If any adjustment is required, it is done to match the norm as far as possible. While doing so the following guidelines are also kept in mind by the committee members:

Everything being equal, criteria to be adopted in the process of normalization in the following order:

- i) Working at Operating Stations
- ii) Working at Corporate Office who are extending effective assistance to Operating Stations/Projects including design.
- iii) Working at Construction Projects
- iv) Working at Liaison Offices
- v) Generally ranking/ switching is made in the same discipline
- vi) General perception of performance of the Appraisee shall be considered.

As per the Bell Curve Guidelines not more than 10% to 15% of the executives are graded as "Outstanding/ Excellent" and 10% of the Executives should be graded as Below par for the purpose of distribution of PRP. Generally, a trend has been found PMRs are sent to Corporate Centre prior to Normalization do not meet the specified percentage criteria set as per Bell Curve and internal guidelines related to Bell Curve. The percentage of Outstanding, which should not be more than 10%, is generally found to be on the higher side similarly, PMRs, which should be rated as Very Good/Good/Poor, are also not in the specified percentage.

Normalization Centres are created to ensure:

1. Bell Curve.

2. Shall bring objectivity and rationale.
3. Proper identification of Performers in range in a curve.

Basis of formation of Normalisation Centres (NC)

1. Administrative control of the Units
2. Grade wise grouping
3. No. of Executives
4. Clubbing of different grades of executives if required
5. Applying Bell Curve criteria
6. Adequate representation of Executives in particular grade in units/depts.

After Normalization, it is ensured that the rated PMRs are as per the guidelines and specified percentage criteria in this regard. A pictorial representation is presented below:

FIGURE 1.1: PRE-NORMALIZATION

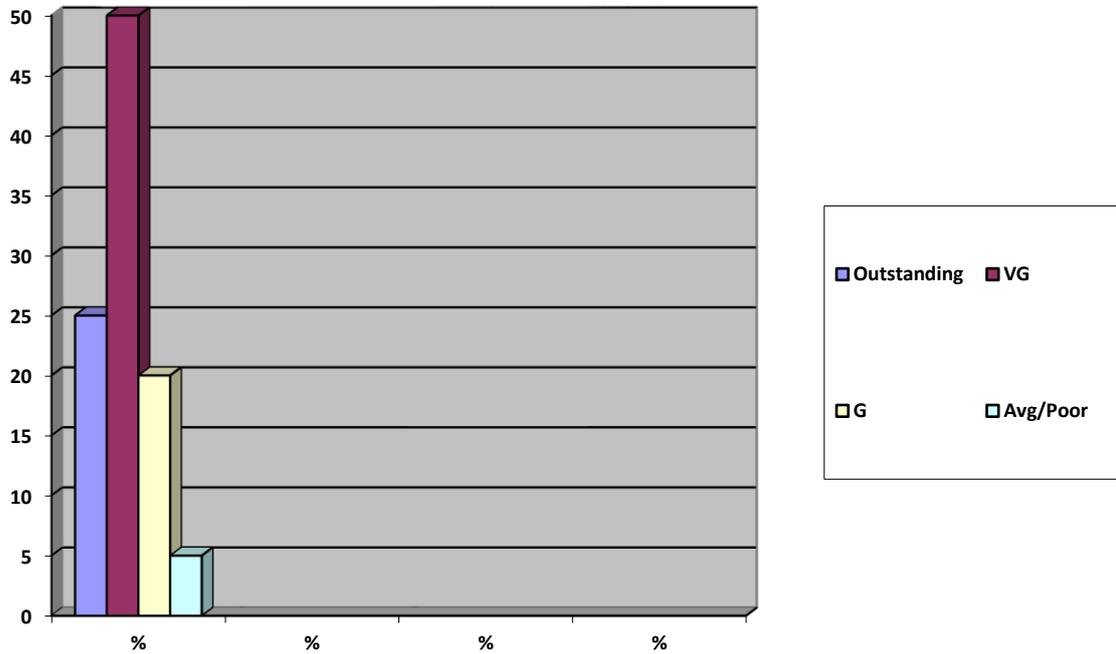
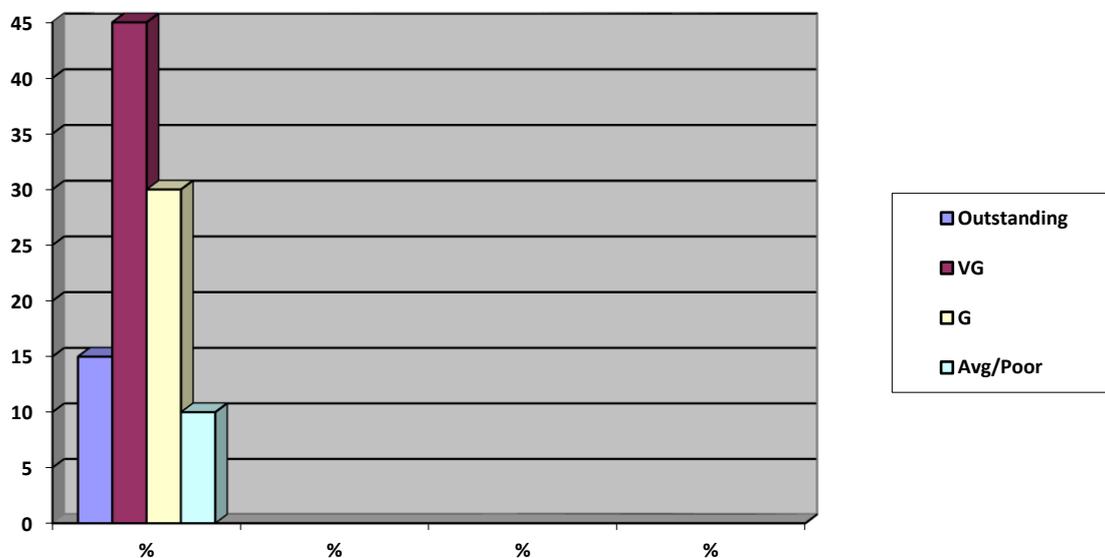


FIGURE-1.2: POST NORMALIZATION

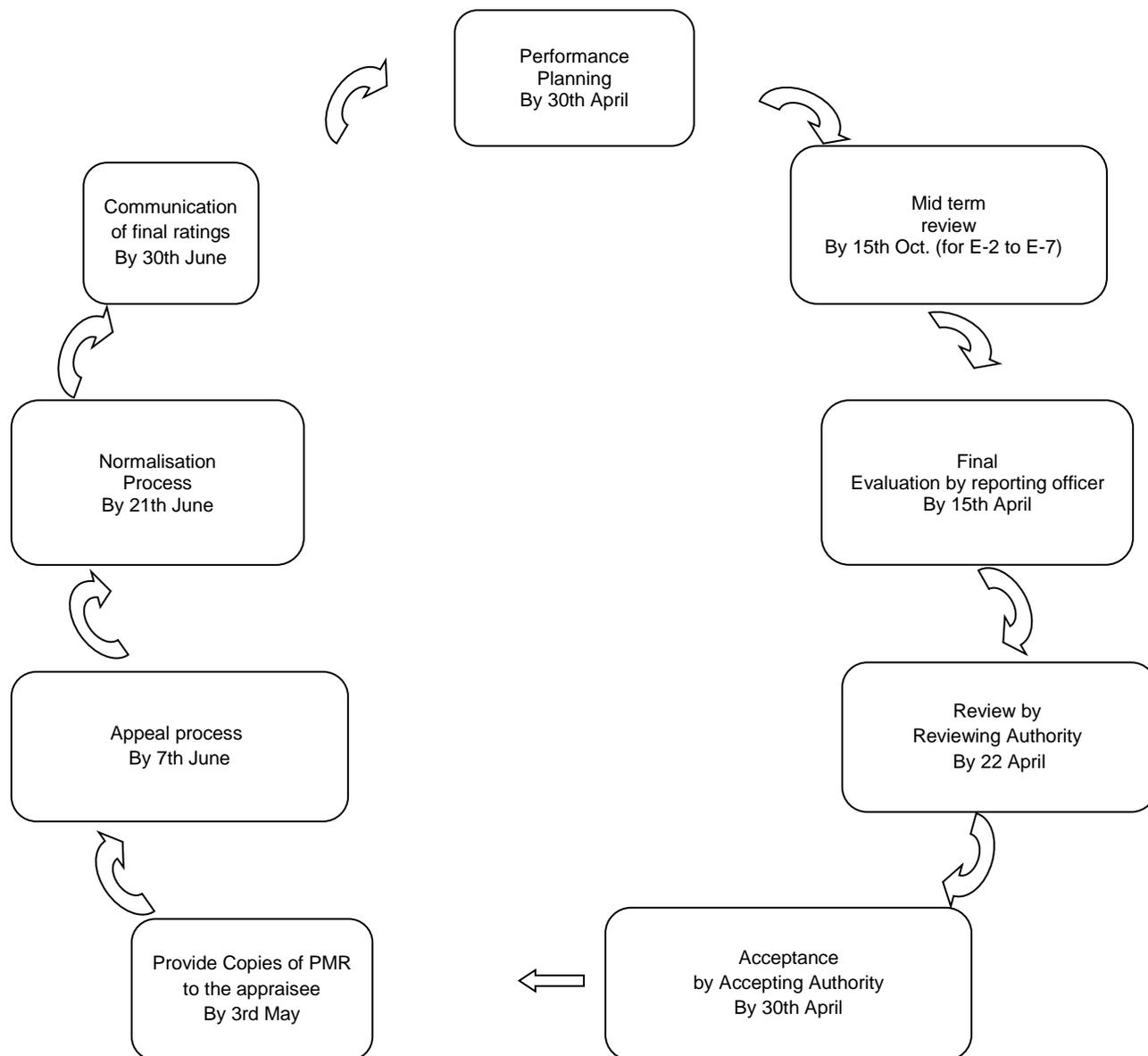


In the interest of improving fairness and transparency in Performance Appraisal Process the copies of PMRs are given to executives to make appeal against the assessment made by the Accepting Authority through the hierarchical channel.

COMMUNICATION OF SCORES AND APPEAL PROCEDURE

In the interest of improving fairness and transparency in performance appraisal process the executives will be provided copies of Performance Management Report (PMR) to the Appraisee and also to afford an opportunity to make appeal against the assessment made by the Accepting Authority through the hierarchical channel.

FIG. 1.3: PERFORMANCE MANAGEMENT SYSTEM PROCESS FLOW IN THDCIL



PERFORMANCE APPRAISAL FOR THE EXECUTIVES IN E-8 AND E-9 GRADE

Executives in the level of E-8 and E-9 grade use the format for their Performance Appraisal Report circulated by DPE.

The Performance Appraisal Report comprises of 06 sections.

Section- I Basic information of the officer reported upon.

Section –II Self appraisal of the officer reported upon.

1. Brief description of responsibilities.
2. Annual workplan deliverable and achievement.
3. Any exceptional contribution, e.g. successful completion of an extraordinarily challenging task or major systemic improvement (resulting in significant benefits to the Company and/or reduction in time and costs).
4. Constraints that hindered performance.
5. Specific areas of training that will add value.
6. Declaration regarding submission of property return, Medical check-up and annual work-plan for all the officers for whom the officer reported upon is the reporting officer.

Section–III Appraisal of the Reporting Authority relating to the accomplishment filled in

Section-II and Personal Attributes and Functional Competencies.

Section- IV Review by the Reviewing Authority: Over all grades computed by summing up the weightage average in assessment of the achievements made and Personal Attributes and Functional Competencies.

Section-V Acceptance by the Accepting Authority.

Section-VI Review by the Accepting Authority in the light of the representation received from the officer reported upon.

Evaluation of KRAs is assigned on a scale of 1-5, in maximum of 2 decimal numbers, with 1.00 referring to the best grade and 5.00 to the lowest grade. Weightage to KRAs will be 75% and Personal Attributes & Functional Competencies will be 25%.

Appeal procedure is same as that for E-2 to E-7. Representation, if any, against the assessment of the achievements made against the targets and assessment of Personal Attributes and Functional Competencies is considered as per the terms mentioned for other executives of the corporation. Bell Curve approach and Normalization of scores for the purpose of payment of PRP is as per method adopted for the other Executives in the corporation.

LINKAGE OF PMS TO PAYMENT OF PERFORMANCE RELATED PAY (PRP)

After the Pay revision guidelines issued by Department of Public Enterprises in respect of 2nd Pay Revision of CPSEs and introduction of Performance Related Pay (PRP) as incentive and its being linked to Performance Management System every CPSE was directed to devise and implement a robust and transparent Performance Management System. THDCIL therefore further streamlined its Performance Management System to make it more transparent, participative, communicative and linked the same with payment of incentive in the form of PRP.

For payment of PRP the MOU rating of the Corporation and Individual rating of the employees derived from Performance Management System is used to distribute Performance Related pay on the formulae devised by Department of Public Enterprise.

Performance Related Pay (PRP), will be linked to:

- a) MOU rating of the Corporation.
- b) Profit of the Corporation.

The percentage ceiling of PRP for different existing grades and levels of employees as per DPE guidelines expressed as percentage of Basic Pay followed in THDCIL.

TABLE 1.3: PERCENTAGE CEILING OF PRP

GRADES/LEVELS	PRP (as Percentage of Basic Pay)
CMD	200
Directors	150
E8-E9	70
E6-E7	60
E4-E5	50
E2-E3	40
Supervisors	40

TABLE 1.4: METHODOLOGY FOR CALCULATION OF PRP AS PER DPE FORMULA

PRP from current profit (60% of PRP)	0.6	X	X	X	X	X	Total
		Annual Basic Pay	MOU Rating	Grade Incentive	Exec. Perform. Rating	Ratio of available amount to Required amount Maximum limit of this ratio shall be 1.	
PRP from Incremental profit (40% of PRP)	0.4	X	X	X	X	X	Total
		Annual Basic Pay	MOU Rating	Grade Incentive	Exec. Perform. Rating	Ratio of available amount to Required amount Maximum limit of this ratio shall be 1.	

PRP on Individual Performance: PRP on individual performance is payable to Executives/Supervisors in accordance with factors mentioned in table below

TABLE 1.5: PRP ON INDIVIDUAL PERFORMANCE

Individual Rating	Bell Curve Application (Percentage of total population)	Percentage of PRP payable as PRP on Individual Rating
Excellent	15%	100%
Very Good	45%	80%
Good	30%	60%
Average/ Not satisfactory	10%	0

The individual component disbursed against PRP comes out from the Performance Appraisal rating of the employees. Thus, the PMS of THDCIL has been linked to payment of incentives as well.

TRAINING NEEDS ANALYSIS THROUGH PMS

The Performance Management System is also used to get the training need assessment of employees. The Performance Appraisal Report contains a dedicated section of Training need, which is filled by concerned employee thereby reflecting the areas where the employee requires training. The Human Resource Department maintains the data of such filled training need sheets of Performance Appraisal Report, which is used to devise training calendar.

Performance Management System is thus serving in manifold ways in THDCIL, whether it is measuring, managing performance of employees, whether with proper feedback helping in improvement of performance of those lagging behind, identifying and rewarding the performers and paying them incentives, identifying the training needs of employees etc.

In order to adjudge the effectiveness and positive change that has emerged out of implementation of new Performance Management System a sample survey was conducted using questionnaire: The questionnaire contained variables and questions related to Objectivity of Performance Management System, formulation of Key result Area (KRA), Measurement of Performance through KRAs, Linkage of KRAs with organizational Targets, Role of reporting officer, reviewing officer, Accepting Authority, Communication of Performance Appraisal Scores to Individuals, Feedback, Counseling, and general perception of Employees about the Performance Management System. The pictorial presentation of the findings is presented below:

The Performance Management System in THDCIL is not only meant for objective assessment of performance but for further development and management of talent through recognizing the performers and awarding them. At the same time assist those who are lagging behind in performance by continuous feedback and helping them improving their performance.

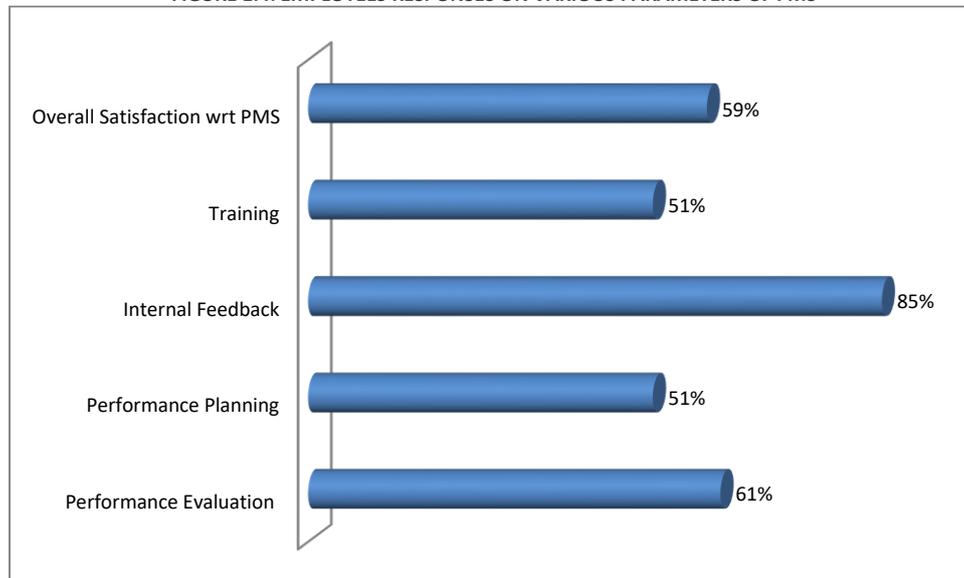
The PMS scores are also used in developing executives for future challenges and nominating them to different training programmes as well. The PMS is used in aligning KRAs with the business strategies and identifying superior performers in the organization by defining clear career paths and accountabilities. The rewards and recognitions are linked with the PMS. The new PMS has boosted the employee's motivation and performance. The job satisfaction has also improved due to the introduction of a fair and transparent PMS and linking it with reward system.

Most organizations consider performance assessment processes as being an important employee intervention activity. Most of them have at least one performance assessment cycle that is mandatory for all employees.

However, despite the understood importance of the process, in actual practice, performance assessment or employee appraisal largely remains an annual ritual in most organizations – file opened at the beginning of every year and closed at the end of every year—a process that has more to do with annual increments and yearly promotions.

A questionnaire developed to measure certain parameters related to PMS yielded the results presented below:

FIGURE 1.4: EMPLOYEES RESPONSES ON VARIOUS PARAMETERS OF PMS



CONCLUSION

The results that questionnaire revealed that 61% of executive population is satisfied that PMS is serving the purpose performance evaluation, 51% each population is of the opinion that PMS is serving the purpose of performance planning, Internal feedback and 59% opines it is serving the purpose of capturing Training Need. Error in Bar Graph 59% to be replaced with 87%.

The alignment between individual performance and organizational goal is also of utmost importance by introducing an appropriate set of performance indicators. Measuring performance is useful only when it translates into action. Performance management tools by themselves do not create sustained high performance. It is important to create an environment conducive for effective and efficient performance with a system of rewards and punishment, besides building capacity at all levels of government to get results.

Coming to the conclusion, it should be mentioned that people have different skills, abilities and aptitudes and there is a great need to have suitable performance evaluation system to measure the relative merit of each employee in modern organization.

Employee performance evaluations traditionally vary by organization, and management may struggle with selecting the best evaluation methods for their own employees. That is why a comprehensive employee appraisal is often made up of several different methods of performance evaluation. Of course, managers can choose to use only one of them when judging an employee's performance, but multiple evaluation methods are able to get a broader picture of the areas where the employee needs improvement. Regular performance evaluations not only provide feedback to employees, but also provide employees with an opportunity to correct deficiencies.

In THDCIL the performance appraisal method has underwent a paradigm shift and is working well to achieve the objective with which it was implemented. However, with each passing day and several challenges that has been confronted in the past few years of implementation, continuous effort is being made to improve and streamline the system.

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PEDAGOGICAL INNOVATIONS IN THE TEACHING LEARNING PROCESS

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ABSTRACT

Unimaginable changes are happening every single day in the realms of technology. Technology plays the most important role in modernizing global education system. Students must be equipped to handle the challenges of the 21st century, as they will spend their lives in a multitasking, multifaceted, technology-driven vibrant world. Technology can be appropriate vehicle for promoting meaningful and engaged learning and also for the development of higher order thinking skills. Innovations in teaching learning provide the student with a different kind of education. Multimedia is a combination of computerized and electronic devices that includes the combination of text, audio, animation and interactivity. Technology can be used for challenging, long-term projects that promote student's higher order thinking skills by engaging students in authentic, complex tasks within collaborative learning contexts.

KEYWORDS

pedagogical innovations, teaching learning process.

INTRODUCTION

"Invention is the time when teachers take ownership. They make the innovation real."

The latest developments in science and technology have changed the meaning and concept of education in the 21st century. Education technology has added a new dimension to make the teaching-learning process more effective and lasting. Technology is not transformative on its own. When used effectively, technology applications can support higher-order thinking by engaging students in authentic, complex tasks within collaborative learning contexts. Instead of focusing on isolated, skills-based uses of technology, schools should promote the use of various technologies for sophisticated problem-solving and information-retrieving purpose. It allows students to work on authentic, meaningful, and challenging problems, similar to tasks performed by professionals in various disciplines; to interact with data in ways that allow student-directed learning; to build knowledge collaboratively; and to interact with professionals in the field. Technologies also can be used to promote the development of higher-order thinking skills and allow opportunities for teachers to act as facilitators or guides and often as a co-learner with the students.

To be effective, technology and teachers must work together to provide challenging learning opportunities to students. The main concern is the use of technology as a catalyst for changing schools in the ways that support the acquisition of higher-order skills by students whose educational experiences frequently have been rote drill on lower-order skills with relatively little attention to skills that are relevant to effective functioning in the real world. This is for providing the students with a different kind of education, structured around the provision of challenging tasks, which can prepare them for technology-laden world.

INSTRUCTIONAL GOALS

Before technology can be used effectively for engaged learning, the school needs to ensure that the technology supports the educational goals for students. The school's initial task is to develop a clear set of goals, expectations, and criteria for student learning based on national and state educational standards. Then the school can determine the types of technology that will support efforts to meet those goals. In other words, the learning goals should drive the technology use. Technology supports the instructional learning goals. Some learning goals to be taken into account through technology are:

- Technology is integrated into instruction in meaningful ways so that it contributes to the attainment of high standards by all students.
- Technology is used for challenging, long-term projects that promote students' higher-order thinking skills instead of merely for drill-and-practice programs to improve basic skills.
- All students have opportunities to use a variety of technologies to support their work on authentic tasks.
- All technology is in operable condition and is being used effectively and to the maximum extent possible.
- There is flexibility in managing the technology to ensure that all students and teachers have equity of access.
- Professional development is considered an important part of the technology plan and the technology budget.

CHANGE IN INSTRUCTIONAL ROLE

Technology integration brings changes to teachers' instructional roles in the classroom. The teacher's roles in a technology-infused classroom often shift to that of a facilitator or coach rather than a lecturer. Technology use also tends to foster collaboration among students and other changes in the dynamics of the classroom. Teachers who are not accustomed to acting as facilitators or coaches may not understand how technology can be used as part of activities that are not teacher-directed. This situation may be an excellent opportunity for the teacher not only to learn but also to model being an information seeker, lifelong learner, and risk taker. Teachers must become comfortable letting students move into domains of knowledge and they must be able to model their own learning process. Seminars and online professional communities will help them use technology effectively.

Teachers must have knowledge and experience with the vast range of educational technology and must learn strategies for using it effectively in the classroom. Professional development must support teachers as they attempt to implement technology in the most efficient way possible as well as help them identify the most effective curricular models for their classrooms. Teacher should stay abreast of efforts to promote the effective use of technology to support the curriculum for all students. Technology should be made an integral part of the curriculum. In-service training and technical support for teachers should be provided.

CLASSROOM APPLICATIONS

In the classroom, teachers can develop a myriad of technology-supported engaged learning projects that enable students to solve real-world problems, retrieve information from online resources, and connect with experts. The advancement and inventions in the domain of technology are having an unprecedented effect on the methods of teaching-learning process globally developing the concept of "classrooms of the future" as an extremely advanced and modified picture. The usage of Interactive Whiteboard (IWB) and Audiovisual equipments is emerging as one of the powerful pedagogical innovations in the teaching and learning process. IWBs present more opportunities for interaction and discussion. The use of robotics in education is yet another educational innovation which can make learning more joyful, purposeful and activity based. Such projects can be adapted for different grade levels.

- A teacher can share an author's Web site with young children to help them understand how writers make their stories interesting and fun to read.
- Middle-school students can use e-mail and teleconferencing to connect with experts to solve science problems.
- High-school students can develop a mock technology company and use the Internet, scanners, and presentation software to plan and deliver speeches to stockholders.
- Students can be motivated in lessons with an IWB because of the high level of interaction. They enjoy interacting physically with the board, manipulating text and images. It also allows teachers to easily and rapidly create learning objects from a range of existing content and adapt it to the needs of the class.

• Robotics can be effectively used in subjects like foreign language or in repetitive therapies to teach developmental problems like autism. Rather than using technology for technology's sake, the school can develop a vision of technology that can improve teaching and learning and is helpful in inculcating the following skills:

- Word processing and e-mail promote communication skills;
- Modeling software promotes the understanding of science and math concepts;
- Database and spreadsheet programs promote organizational skills;
- CD-ROMs and the Internet promote inquiry skills.
- IWB promote interactive skills.

PRE-REQUISITES FOR IMPLEMENTATION

- Administrative initiatives for the attainment of high standards by students as well as schools.
- Identification of compatibility requirements of various education technologies within individual schools.
- Infrastructure of the schools as well as the classrooms.
- In many schools, technology is not easily accessible by teachers. The integration of technology into the curriculum will not succeed without giving teachers ample time to practice, explore, conceptualize, and collaborate.
- Teachers need sufficient amount of opportunities to practice with the technology and gain confidence in its use and to translate new ideas and strategies into practical classroom lessons and unit plans.
- Collaboration with other teachers and technical support personnel to ensure ease of use in the classroom.
- Not all teachers are motivated to use technology. Teachers may resist for many reasons, including the fear that technology threatens their role as expert, and the feeling of inadequacy resulting from lack of prior mastery of technology skills.
- Adequate funding is required by schools to purchase necessary number of computers and other related equipments.

Technology is expected to develop new skills among the students to learn basic principles and their application to understand subjects like maths and science. It is believed that the use of technology can go a long way in providing adequate opportunities and freedom to showcase their novel ideas, but total dependence on technology, where the role of a teacher will be neglected in future is not justified. The central and state boards of school education should make technology an integral part of the curriculum at the secondary and senior secondary levels in which the role of a teacher should be given an utmost importance.

CONCLUSION

It is concluded that unimaginable changes are happening every single day in the realms of technology. Technology plays the most important role in modernizing global education system. Students must be equipped to handle the challenges of the 21st century, as they will spend their lives in a multitasking, multifaceted, technology- driven vibrant world. Technology can be appropriate vehicle for promoting meaningful and engaged learning and also for the development of higher order thinking skills. Innovations in teaching learning provide the student with a different kind of education. Multimedia is a combination of computerized and electronic devices that includes the combination of text, audio, animation and interactivity. Technology can be used for challenging, long-term projects that promote student's higher order thinking skills by engaging students in authentic, complex tasks within collaborative learning contexts.

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CRITICAL SUCCESS FACTORS IN ERP IMPLEMENTATION: A REVIEW**SANGRAM SINGH****HEAD****DEPARTMENT OF COMPUTER APPLICATIONS****CT INSTITUTE OF MANAGEMENT & INFORMATION TECHNOLOGY****MAQSUDAN****VIRAT REHANI****ASST. PROFESSOR****CT INSTITUTE OF MANAGEMENT & INFORMATION TECHNOLOGY****MAQSUDAN****DR. J. K. DHAMI****DIRECTOR****CT INSTITUTE OF MANAGEMENT & INFORMATION TECHNOLOGY****MAQSUDAN****ABSTRACT**

ERP systems have become vital strategic tools in today's competitive business environment. This work presents a review of recent researches on ERP systems. It attempts to identify the main benefits of ERP systems, the drawbacks and the critical success factors for implementation discussed in the relevant literature. The findings revealed that despite some organizations have faced challenges undertaking ERP implementations, many others have enjoyed the benefits that the systems have brought to the organizations. ERP system facilitates the smooth flow of common functional information and practices across the entire organization. In addition, it improves the performance of the supply chain and reduces the cycle times. However, without top management support, an appropriate business plan, farsighted vision, re-engineering business process, effective project management, user involvement, relevant education and rigorous training, organizations cannot embrace full benefits of such complex system and the risk of failure is deemed to be at high level.

KEYWORDS

ERP, benefits, drawbacks, success factors.

1. INTRODUCTION

Understanding the critical success factors in implementing Enterprise Resource Planning (ERP) systems has been a challenging process for many organizations worldwide. An ERP system enables an organization to integrate all the primary business process in order to enhance efficiency and maintain a competitive position. However, without successful implementation of the system, the projected benefits of improved productivity and competitive advantage would not be forthcoming.

In its basic definition, ERP is an enterprise-wide information system that integrates and controls all the business processes in the entire organization. According to Nah and Lau (2001) ERP is "a packaged business software system that enables a company to manage the efficient and effective use of resources (materials, human resources, finance, etc.) by providing a total, integrated solution for the organization's information-processing needs". This software if well implemented facilitates the integration of all the functional information flows across the organization into a single package with a common database. Therefore, it allows easy and immediate access to information regarding inventory, product or customer data and prior history information (Shehab *et al.*, 2004).

ERP initially covered all routine transactions within an organization only. However, it was later expanded to cover external customers and suppliers (Turban *et al.*, 2006). Nah and Lau (2001) stated that most ERP systems now have the functionality and the capability to facilitate the flow of information across all business processes internally and externally as well. Furthermore, ERP systems have the capability to "reach beyond their own corporate walls to better connect with suppliers, distributors and customers to engage in e-business".

Today, many public and private organizations worldwide are implementing ERP systems in place of the functional legacy systems (which may be referred with respect to their age, void support from vendors or out dated technology etc.) that are not anymore well-compatible with modern business environment. However, according to Kroenke (2008), the process of moving from functional applications to an ERP system is difficult and challenging. Additionally, the switch to ERP system is expensive and it requires development of new procedures, training and converting data (Zhang *et al.*, 2005).

2. RESEARCH AIM

Many ERP research studies have determined several critical success factors in ERP implementations (see table 1). These studies, however, discussed the success factors from different prospective and in different contexts.

The coupled aims of this study are:

- a) To identify the most cited ERP critical success factors in the literature.
- b) To arrange these scattered factors in an organized and adequate set in order to have a better understanding and a clearer picture of the factors that are considered to be vital for a successful ERP implementation.

3. METHODOLOGY

This study is a review of literature on ERP. We decided to focus our study on articles that discuss the ERP implementation and particularly the critical success factors. All the articles that were selected are published in peer-reviewed and prestigious journals. There are two up-to-date books used in this study. All the article surveyed were extracted from different business and information systems databases such as ABI Inform, Emerald, ScienceDirect and ACM Digital Library. The terms *ERP*, *Enterprise Resource Planning*, *ERP success factors* have been used. We limited the search date to be between (2000 and 2014) in order to get relatively new articles. To better analyze the articles, we divided them into three categories based on the main topic they discussed. The three categories are: ERP overview, ERP benefits and drawbacks, ERP success factors.

4. FINDINGS

The next three sub-sections discuss the main findings revealed from the reviewed articles. Firstly, the benefits of ERP are presented. Then, the challenges of ERP implementation are identified. The third section outlines and discusses the key factors that contribute to ERP success.

4.1 BENEFITS OF ERP

Several research studies have identified various important benefits the ERP systems bring to organizations. O'Leary (2000) stated that an ERP system integrates the majority of the business processes and allows access to the data in real time. Furthermore, ERP improves the performance level of a supply chain by helping to reduce cycle times (Gardiner et al., 2002). There are also some intangible benefits that an organization may enjoy by implementing an ERP system including, better customer satisfaction, improved vendor performance, increased flexibility, reduced quality costs, improved resource utility, improved information accuracy and improved decision-making capability (Siriginidi, 2000).

The IT based projects already implemented have clearly provided the organization with a short-term profit as well as continuous flow of earnings from service fees. Hana Klčová et al. (2009) mentioned such projects with a view of long-term benefits, permanent custom and satisfaction of clients and increase of positive references can be inferred.

Implementation of ERP in SIKO Koupelny, the largest dealers of bathroom fittings in the Czech Republic is emphasized by Petr Sodomka et al. (2014). The cumulative approach has markedly enhanced the organization, by creating and controlling the documentation for changing system and empowering the control system based on the reports of the MIS.

Hong, Kyung-Kwon et al. (2002) mentioned in their work that according to IT managers who are responsible for management of Enterprise Resource Planning implementation, the ERP systems are most strategic computation platform.

4.2 DRAWBACKS OF ERP

Despite the potential benefits discussed above, however, ERP systems also have a number of drawbacks. For example, most ERP systems tend to be large, complicated, and expensive (Mabert et al., 2001). Moreover, ERP implementation requires an enormous time commitment from an organization's information technology department or outside professionals. In addition, because ERP systems affected most major departments in a company, they tended to create changes in many business processes. According to Shang and Seddon (2002) putting ERP in place requires new procedures, employee training, and both managerial and technical support.

Ali H. Al-Badi et al. (2010) states that although technology helps the use of new technologies, but projects technically more complex platform, the point is debated crisply for layer based components. It further impress that even making applications to access varying databases also needs detailed knowhow.

4.3 CRITICAL SUCCESS FACTORS IN ERP IMPLEMENTATION

Table 1 presents the main factors revealed from the literature review and that are found to be vital for successful ERP implementation:

TABLE 1: CRITICAL SUCCESS FACTORS IN ERP IMPLEMENTATION

CRITICAL SUCCESS FACTOR	REFERENCES
Top management support	Al-Mashari et al. (2003); Umble et al. (2003); Zhang et al. (2002)
Business plan and vision	Loh et al. (2004); Schwalbe, (2000); Somers and Nelson (2004); Nah et al. (2003)
Re-engineering business process	Davison (2002); Hammer and Champy (2001); Somers and Nelson (2004); Nah (2003); Murray and Coffin (2001)
Effective project management and project champion	Zhang et al., (2002); Somers and Nelson (2004); Remus (2006); Loh et al. (2004);
Teamwork and composition	Loh et al. (2004); Al-Mashari et al., (2006); Remus (2006); Nah et al. (2003); Rosario (2000)
ERP system selection	Wei and Wang (2004); Shehab et al., (2004); Everdingen et al. (2000); Spratt (2000)
User involvement	Esteves et al., (2003); Zhang et al. (2002)
Education and training	(Woo 2007); Nah et al., (2003); Zhang et al. (2002)
Economics	Sodomka et al. (2009).

4.3.1 Top Management Support

Top management support has been identified as the most important success factor in ERP system implementation projects. According to Zhang et al. (2002) top management support in ERP, implementation has two main aspects: providing leadership and providing the necessary resources. Additionally, the roles of top management in ERP implementation comprise developing an understanding of the capabilities and limitations, establishing reasonable objectives for ERP system, exhibiting commitment, and communicating the corporate strategy to all employees (Umble et al., 2003).

Al-Mashari et al. (2003) argued that top management support does not end with initiation and facilitation, but must extend to the full implementation of an ERP system. Furthermore, top management support should provide direction to the implementation teams and monitor the progress of the project.

4.3.2 Business Plan and Vision

A clear business plan and vision is needed to guide the project throughout the ERP life cycle (Loh et al., 2004). Project management identifies three competing and interrelated goals namely; scope, time, and cost goals (Schwalbe, 2000). The primary stage of any project should begin with a conceptualization of the goals and possible ways to achieve these goals. Additionally, goals should be explained so they are specific and operational, and to indicate the general directions of the project (Somers and Nelson 2004).

Nah (2003) stated that one of the biggest problems ERP project leaders face comes not from the implementation itself, but from expectations of board members, senior staff, and other key stakeholders. It is important to set the goals of the project before even seeking top management support. Many ERP implementations have failed as a result of lacking clear plans (Somers and Nelson 2004).

4.3.3 Re-engineering Business Process

Petr Sodomka et al. (2010) scribes that in-house accounting system, are not sufficiently worked upon currently, which is offended with respect to financial accounting principles. This scenario will definitely lead to non-precise and scarce information for the management of the entire organization.

Ali H. Al-Badi et al. (2010) emphasizes that the data is the foremost requirement of the organisation's business application and the technical capability to integrate various data to enable software applications to function and reach expected target.

Hammer and Champy (2009) defined Business process re-engineering (BPR) as "the fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical, contemporary measures of performance, such as cost, quality, service and speed". Somers and Nelson (2004) stated that BPR plays a significant role in the early stages of implementation. Furthermore, it is important in the acceptance stage and tends to be less important when the technology becomes routine.

Nah (2003) noted that reengineering should continue with new ideas and updates to take full advantage of the ERP system when the system is in use. Organizations should be willing to change their businesses to fit the software in order to reduce the degree of customizations (Murray and Coffin, 2001). Many organizations have made unnecessary, complex customizations to ERP software because the people making the changes do not fully understand the organization's business practices (Nah 2003). According to Somers and Nelson (2004) the new business model and reengineering that drives technology choice is an enabling factor that can give to ERP success. Furthermore, Davison (2002) argued that ERP implementation often requires changes in job descriptions and essential skills.

4.3.4 Project Management and Project Champion

ERP systems implementation is a set of complex activities thus, organizations should have an effective project management strategy to control the implementation process (Zhang et al., 2002). Project management activities span from the first stage of the ERP life cycle to closing it. Project planning and control is a function of the project's characteristics such as project size, experiences with the technology, and project structure (Somers and Nelson, 2004).

Remus (2006) noted that project champion is one of the most important factors in the implementation of ERP systems. Project champions should own the role of change champion for the life of the project and understand the technology as well as the business and organizational context. Furthermore, project champion must attempt to manage resistance towards positive change in the old system (Loh and Koh, 2004).

4.3.5 Teamwork and Composition

The ERP team should involve of the best people in the organization (Loh and Koh 2004). Al-Mashari et al., (2006) the success of projects is related to the knowledge, skills, abilities, and experiences of the project manager as well as the selection of the right team members. Also, team should not only be technologically competent but also understand the company and its business requirements (Remus 2006).

An ERP project involves all of the functional departments in an enterprise. It demands the effort and cooperation of technical and business experts as well as end-users (Loh and Koh 2004). Both business experts and technical knowledge are important for success (Nah 2003). The sharing of information between the implementation partners is essential and requires partnership trust (Loh and Koh 2004). Moreover, the team should be familiar with the business functions and products so that they know what needs to be improved to the current system (Rosario 2000).

4.3.6 ERP System Selection

The selection of a suitable ERP system is a challenging and time-consuming process. Zainal Arifin Hasibuan et al. (2012) states, that many organizations implement the ERP system just to encompass the technology driven era, rather than business needs. Such shifts probably lead to wrong selection. Therefore, it is the immense need for the company to select the appropriate product that supports its operational process.

Wei and Wang (2004) stated that there is no one single ERP package that could provide all the functionalities required for the business. There are various ERP packages in the market with similar functionality but different designs including, SAP, Oracle, JD Edwards and Baan (Shehab et al., 2004). Therefore, an organization must select an appropriate vendor that able to provide a flexible ERP system. Various authors identified important criteria that need to be taken into account when selecting a new ERP system. For example, a study by Everdingen et al. (2000) stressed that the ERP system selected has to closely fit with most of the current business procedures. Additionally, the system has to be flexible, user-friendly and easy to implement. Another similar research study by Spratt (2000) reported that applicability, integration, adaptability and upgradeability are essential factors that have to be considered in ERP adoption.

4.3.7 User Involvement

User involvement is one of the most cited critical success factors in ERP implementation projects. User involvement increase user satisfaction and acceptance by developing realistic expectations about system capabilities (Esteves et al., 2003). User involvement is essential because it improves perceived control through participating the whole project plan. According to Zhang et al (2002) there are two areas for user involvement when the company decides to implement an ERP system: user involvement in the stage of definition of the organization's ERP system needs, and user participates in the implementation of ERP systems.

4.3.8 Education and Training

Educating and training users to use ERP is important because ERP is not easy to use even with good IT skills (Woo 2007). Nah et al., (2003) argued that sufficient training can assist increase success for ERP systems. However, lack of training may lead to failure. According to Zhang et al. (2002) the main reason for education and training is to increase the expertise and knowledge level of the users within the company.

5. LIMITATIONS OF THE RESEARCH

At present, we do not claim that a comprehensive review has been conducted to identify the benefits, the drawbacks and the main critical factors for ERP implementation. Implementation of ERP has not been studied industry-wise so probably implementation in certain type of industry would be easier compared to other(s). Study does not take into account the size of the organization while discussing implementation of ERP. CSF may vary depending on the size of the company. However, despite the need for more rigorous analytical methods, this study helped us at this stage to evaluate the related ERP literature and gain theoretical background on the subject, which shall prepare us for a large-scale empirical study in the future.

6. CONCLUSION

To adapt to today's challenging and competitive business environment, organizations are implementing ERP systems to achieve a capability to plan and integrate enterprise-wide resources in order to shorten lead times, and to be more responsive to customer demands.

This paper attempts to review the ERP literature and identify the benefits, drawbacks and the critical success factor in ERP implementation. While this paper does not produce generalizable results, it provides insights for IS practitioners who may consider implementing ERP in their organizations. The paper identifies the most cited success factors in the literature and illustrates their significant importance in ERP implementation.

Most of the articles stressed that each organization must assess itself, to see if it is ready for ERP. Many organizations that attempt to implement ERP systems run into difficulty because such organizations may not be ready for integration and the various departments within it have their own agendas and objectives that conflict with each other.

Despite the fact that ERP integrates and optimizes the flow of information across the entire organization's supply chain, the implementation of such software packages can be costly, and may even require reengineering the entire business operations. Combinations of factors have to be considered when undertaking an ERP implementation including: top management support, business plan and vision, Re-engineering business process, effective project management and project champion, careful package selection process, teamwork and composition, user involvement and education and training.

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**EFFECT OF INTERNAL BRANDING FACTORS IN DEVELOPING ORGANIZATIONAL COMMITMENT WITH
SPECIAL REFERENCE TO HOTEL INDUSTRY IN INDORE CITY**

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ABSTRACT

The 21st century has brought many changes in business organizations, business practices, business concepts and business framework have gone through the radical process of re engineering, now the business houses not only rely on mere demand and supply equation, and they walked an extra mile. What has changed during a period of time is customer has become into the focus rather than product, process and corporate objectives in hotel industry. In short the bottom line is a corporate success in hotel industry is going to be in aligning with customer's delight and customer's satisfaction. In this paper the researcher analyze concepts of Internal Branding (IB) and Organizational Commitment (OC) parallel, and define their scopes, overlaps and differences – Researches so far have dealt with dyad of those concepts. The dyad of IB and OC is a subject that to date has not received no or very less attention. The impetus for such analysis came as well from the business. Practitioners question whose responsibility is internal communications (of corporate communications or HR department), what is, and whose responsibility is internal marketing, etc.

KEYWORDS

internal branding, marketing, organizational commitment, customer, brand.

INTRODUCTION

As per the latest report published by India Brand Equity Foundation, the Indian tourism and hospitality industry has emerged as one of the key drivers of growth among the services sector in India. Indian ranking has jumped up 13 positions to 52nd rank from 65th in the global Tourism & Travel competitive index. India's rising middle class and increasing disposable incomes has continued to support the growth of domestic and outbound tourism. India is expected to move up five spots to be ranked among the top five-business travel market globally by 2030, as business travel spending in the country is expected to treble until 2030 from US\$ 30 billion in 2015. By 2022, the International hotel chains will expand and invest in India and are expected to gain 50 per cent share in the Indian hospitality industry by 2022.

India is now witnessing the demand of medical tourism, cruise tourism, rural tourism and ecotourism. Government of India is also launched schemes based on themes like Buddhist Circuit in MP(Mandsour-Dhar-Sanchi-Satna-Rewa) and MP State Tourism Development Corporation Ltd also focusing on development of various tourism themes like Wildlife(Bandhavgarh, Rewa, Panna, Pench & Kanha), Pilgrimage(Ujjain, Omkareshwar, Mandleshwar, Amarkantak, Maihar, Datia & Chitrakoot), Heritage(Khajuraho, Gwalior, Bedaghat, Bhopal & Mandav), Nature(Orchha, Jabalpur, Pachmarhi & Hanuwantia) and for Arts & Craft(Maheshwar, Chanderi, Bhopal & Indore) so hotel brands are now focused in entering Tier II and Tier III cities. These towns are now finding an increasing competition among service companies as the government is also focused on developing tourism sector. Indore which is a Tier III city has witnessed the same, the competition level is increasing in hotel industry. Followed by this, the process of internal branding has become essential within the service brand building process, i.e. aligning the service company's brand promise with employees' behavior. Hence, customer-facing employees within the service organization have become a valuable and competitive asset as they manage to deliver the brand promise. There is no sector existing within the marketplace that does not contain, or rely upon a service component. Under such circumstances, employees become a critical resource with a vital role in long-term success (Dunne & Barnes, 2000), through their involvement and contribution in serving customers and achieving customers' satisfaction. For the competitive position in the marketplace the proportion of customer-oriented employees in the organization's workforce brings a significant difference. (Varey, 2001).

INTERNAL BRANDING

While internal branding is "the process of aligning day-to-day activities, business processes, job designs, and recognition & rewards with the brand identity to drive business results." It is part of a focused brand strategy that helps employees understand and integrate brand value(s) in their respective roles to ensure they can effectively deliver on the brand promise.

Internal branding involves:

1. To communicate the brand effectively to the employees
2. To convince employees about the brands relevance and worth
3. To successfully link every job in the organization to deliver brand essence.

ORGANIZATIONAL COMMITMENT

Organizational commitment covers a range of attitudinal and behavioral responses about the organization and is sometimes described as loyalty. Organizational commitment is a concept proposed by Mowday et. al. (1982) to integrate several of the personal characteristics and experiences that individuals bring to the organization.

Organizational commitment is important to organizations because of the desire to retain a strong workforce. Marketing experts are keenly interested in understanding the factors that influence an individual's decision to stay or leave an organization.

LITERATURE REVIEW

Patla & Pandit (2012) revealed in their study that internal branding is important in influencing the feelings and opinions of employees towards the organization and it is practiced in the bank. Rewards and recognitions were considered as the most used method of internal branding. Communication is the most critical factor for implementation of internal branding. Majority of the employees had a positive attitude towards internal branding.

P. Raj Devasagayam, Cheryl L. Buli, Timothy W. Aurand, Kimberly M. Judson,(2010) : This paper seeks to propose and test the appropriateness of a brand community within an internal branding framework. Intra-organizational brand communities are presented as a viable strategic possibility for targeting internal branding participants. The study revealed that the need for the efficacy of internal brand communities, and provide an opportunity to examine the strategic synergies of pursuing such a strategy for internal as well as external audiences. External branding initiatives and communications can be used internally, among employees, to build positive brand associations and brand affinity. Further, implementing an internal brand community can lead to increases in the emotional buy-in of employees and ultimately could help companies increase the proportion of "champion" employees.

The marketing literature shows that market orientation is an antecedent to organizational commitment. Communication is the most critical factor for implementation of internal branding. Majority of the employees had a positive attitude towards internal branding. m research by Jaworski and Kohli (1993) that conceptualises market orientation as consisting of three dimensions: intelligence gathering, intelligence dissemination and responsiveness. Although in their study these authors have only used the affective commitment dimension to measure organizational commitment, research using the expanded organisational commitment construct has also indicated that market orientation is only significantly related to the affective component of organisational commitment (Caruana *et al.*, 1997).

STATEMENT OF THE PROBLEM

To analyze concepts of Internal Branding (IB) and Organizational Commitment (OC) parallelly, and define their scopes, overlaps and differences – Researches so far have dealt with dyads of those concepts. The of IB and OC is a subject that to date has not received any attention. The impetus for such analysis came as well from the business. Practitioners question whose responsibility are internal communications (of corporate communications or HR department), what is, and whose responsibility is internal marketing, etc.

OBJECTIVES OF THE STUDY

1. To study the factor of Internal Branding that plays in developing Organizational Commitment.
2. To study the effect of variables of Internal Branding towards developing Organizational Commitment.
3. To identify the Internal Branding factors responsible for developing the Organizational Commitment.

HYPOTHESIS OF THE STUDY

H₀: There is no significant effect of Internal Branding on development of Organizational Commitment.

RESEARCH METHODOLOGY

The descriptive method of research was used for this study. Convenience Random Sampling was done for the sample selection. A sample size of 400 employees across various levels (Top, Middle and Bottom) of organization structure from 5 hotels at different levels was selected through simple random sampling. The questions were structured using the Likert format. In this survey type, four choices will be provided for every question or statement. The choices represent the degree of agreement each respondent has on the given question. In order to test the validity of the questionnaire used for the study, the researcher was test the questionnaire on fifty respondents. After the questions have been answered, the researcher asked the respondents for any suggestions or any necessary corrections to ensure further improvement and validity of the instrument. The researchers have revised the survey questionnaire based on the suggestion of the respondents. The researcher was then excludes irrelevant questions and change vague or difficult terminologies into simpler ones in order to ensure comprehension and thus, establish Content Validity of the instrument.

To measure Organizational Commitment a standardized scale developed by Anukool M. Hyde and Rishu Roy(2006) will be used. Organizational Commitment Scale(OCS-HR), this scale consists of 30 items in Four Dimensions (1) Belongingness, (2) Job Satisfaction, (3) Optimism and (4) Quality of Work Life (in 8 factors). It is standardized on organizational people. Data was collected from all levels (Top, Middle and Bottom) of organization structure. All the tools in the present study are group tests; therefore, the questionnaire have been administered to a group of 10-15 at a time. Formal interviews also be taken to ensure the reliability of responses so taken. Random Sampling would be used to collect the data from various hotels of Indore Region in Madhya Pradesh. To test the Hypotheses the following techniques were used to find out the effect of internal branding on organization commitment:

1. Factor Analysis
2. T-Test

FACTOR ANALYSIS

In the present study the value of Cronbach Alpha is found to be 0.864 (table no.1) which is satisfactory enough to precede the study. Kaiser-Meyer-Olkin (KMO) is an index to identify whether sufficient correlation exist among the variables has checked the sampling adequacy or not. It compares the magnitudes of the observed correlation coefficients with the partial correlation coefficients. The minimum acceptable value of KMO is 0.50. In the present study the value of KMO is found to be 0.864 (table no.1).

TABLE 1: CRONBACH ALPHA, KMO AND BARTLETT'S TEST RESULT

Cronbach Alpha	KMO measure of sampling adequacy	Bartlett's Test of Sphericity	
• .864	• .772	• Approx.Chi-Square	• 8146.542
		• Degree of Freedom	• 351
		• significance	• 0.000

Source: Researcher's Calculation from Primary Data

To measure strength of relationship among variables of population correlation matrix Bartlett's test has been employed. The maximum acceptable value of the test is 0.05. In the present study Bartlett's value is 0.000 (table no.1) which is satisfactory one to precede the study. This obviously suggests that the use of a factor analysis for the dataset is appropriate. Since Cronbach's alpha has a theoretical relation with factor analysis, the study used this reliability test.

TABLE 2: COMMUNALITIES

	Initial	Extraction
VAR00001	1.000	.650
VAR00002	1.000	.723
VAR00003	1.000	.614
VAR00004	1.000	.642
VAR00005	1.000	.678
VAR00006	1.000	.716
VAR00007	1.000	.833
VAR00008	1.000	.771
VAR00009	1.000	.787
VAR00010	1.000	.745
VAR00011	1.000	.637
VAR00012	1.000	.658
VAR00013	1.000	.716
VAR00014	1.000	.675
VAR00015	1.000	.565
VAR00016	1.000	.568
VAR00017	1.000	.640
VAR00018	1.000	.572
VAR00019	1.000	.706
VAR00020	1.000	.701
VAR00021	1.000	.553
VAR00022	1.000	.652
VAR00023	1.000	.689
VAR00024	1.000	.698
VAR00025	1.000	.794
VAR00026	1.000	.823
VAR00027	1.000	.664

Extraction Method: Principal Component Analysis.

As shown from the table variable 7 i.e. The training in the organization I work for has enabled me to do my job well which are followed by variable 26 i.e. Induction & Orientation Program forms an integral part of recruitment process and so on. All of these variables could further be analyzed through their Eigen values which represent the variances of the factors (Table no.3). The extraction has been done through the method of principal component analysis.

TABLE 3

Total Variance Explained									
Component	Initial Eigen values			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	10.327	38.249	38.249	10.327	38.249	38.249	7.556	27.986	27.986
2	4.280	15.853	54.103	4.280	15.853	54.103	4.902	18.157	46.144
3	1.498	5.548	59.651	1.498	5.548	59.651	2.497	9.248	55.392
4	1.117	4.139	63.790	1.117	4.139	63.790	2.058	7.622	63.014
5	1.046	3.874	67.664	1.046	3.874	67.664	1.255	4.650	67.664
6	.966	3.579	71.244						
7	.877	3.247	74.490						
8	.829	3.070	77.560						
9	.681	2.521	80.081						
10	.647	2.397	82.478						
11	.592	2.193	84.670						
12	.514	1.903	86.573						
13	.436	1.615	88.189						
14	.395	1.463	89.651						
15	.360	1.335	90.986						
16	.334	1.236	92.222						
17	.310	1.147	93.369						
18	.273	1.010	94.380						
19	.255	.945	95.325						
20	.240	.888	96.213						
21	.212	.784	96.998						
22	.178	.658	97.655						
23	.166	.614	98.270						
24	.146	.542	98.812						
25	.130	.483	99.295						
26	.114	.421	99.716						
27	.077	.284	100.000						

Extraction Method: Principal Component Analysis.

As depicted from table no.3 there are five variables which have more than 1.000 Eigen value. The cumulative variance explained by these five components is 67.664%.The result of principal component analysis has further been analyzed through factor loading. Table no. depicts the component matrix of the variables. To identify substantive loadings, present research suppresses loadings having value less than 0.40.

TABLE 4: COMPONENT MATRIXA

	Component				
	1	2	3	4	5
VAR00001	.617	.071	-.244	-.404	.204
VAR00002	.746	-.258	.246	-.169	.103
VAR00003	.716	-.094	.169	-.224	-.116
VAR00004	.713	-.315	-.026	-.183	.008
VAR00005	.675	-.389	.059	.227	-.128
VAR00006	.731	-.339	-.167	.193	.021
VAR00007	.675	-.560	.019	.250	-.019
VAR00008	.697	-.466	.058	.253	.031
VAR00009	.826	-.281	.101	.122	.020
VAR00010	.709	-.426	.070	-.027	-.234
VAR00011	.734	-.139	-.105	-.169	.198
VAR00012	.764	-.175	.011	-.113	-.177
VAR00013	.712	-.448	-.045	.053	-.058
VAR00014	.641	-.087	-.444	-.171	.174
VAR00015	.515	.237	.361	-.152	.301
VAR00016	.528	.468	-.178	.109	-.161
VAR00017	.513	.293	.537	.034	-.026
VAR00018	.573	.461	-.126	-.034	-.118
VAR00019	.425	.595	.151	.211	-.323
VAR00020	.498	.593	-.159	-.174	-.214
VAR00021	.645	.302	-.193	-.092	-.008
VAR00022	.546	.516	-.037	-.272	-.109
VAR00023	.391	.657	.285	.114	-.102
VAR00024	.525	.598	-.203	.114	.106
VAR00025	.446	.360	-.463	.501	.036
VAR00026	.367	.380	.089	.243	.691
VAR00027	.413	.292	.436	.093	.097
Extraction Method: Principal Component Analysis.					
a. 5 components extracted.					

Table no.5 demonstrates the rotated component matrix on the basis of varimax criterion with Kaiser Normalization method. Rotated component matrix is a matrix of the factor loadings for different variables onto each factor. It represents the correlation of specific variable with different factors.

TABLE 5: ROTATED COMPONENT MATRIX

	Component				
	1	2	3	4	5
VAR00001				.677	
VAR00002	.674				
VAR00003	.570				
VAR00004	.691				
VAR00005	.811				
VAR00006	.795				
VAR00007	.905				
VAR00008	.858				
VAR00009	.819				
VAR00010	.821				
VAR00011	.577				
VAR00012	.685				
VAR00013	.828				
VAR00014				.545	
VAR00015			.620		
VAR00016		.719			
VAR00017			.701		
VAR00018		.686			
VAR00019		.736			
VAR00020		.773			
VAR00021		.577			
VAR00022		.652			
VAR00023		.629			
VAR00024		.720			
VAR00025		.663			
VAR00026					.745
VAR00027			.605		

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

Rotated component matrix reveals that out of total 13 variables four variables load highly onto one factor and remaining nine variables load on two or more factors. The entire rotation process has been converged in five iterations and has resulted into five factors. These factors may be summarized as follows:

The Five Factors:

Factor 1: Factor 1 includes variables 2-13

Management/Organization

Factor 2: Factor 2 includes variables 16, 18-25

Training & Recognition by Organization

Factor 3: Factor 3 includes variables 15, 17, 27

HR policies & procedures

Factor 4: Factor 4 includes variables 1 and 14

Employee Support & Initiative

Factor 5: Factor 5 includes variables 26

Internal Recruitment/Promotion

RESEARCH QUESTION

Is there significant effect of Internal Branding on development of Organizational Commitment?

HYPOTHESES

H₀₁: There is no significant impact of the variables of Internal Branding on development of Organizational Commitment.

H₁: There is no significant impact of the variables of Internal Branding on development of Organizational Commitment.

H₀₁ specifies there is no significant impact of the variables of Internal Branding on development of Organizational Commitment. This hypothesis is verified (with path coefficient =0.00; t =47.425). It means that null hypothesis is rejected. It shows that the internal branding has significant effect on the development of Organizational Commitment. As a result, H1 was accepted.

MAJOR FINDINGS

- Most of the respondents were disagree on the statement that help is always available whenever they needed. The reason behind this can be that the employees are working in different shifts and it is not necessary that they always get help from the superior at a particular time (especially in night shift).
- Most of the respondents strongly agree on the statement that manager is willing to extend themselves in order to help them to perform in their job to the best of their ability but there are some respondents who disagree to the above statement. The main reason behind this can be that in some hotels the managers have good interpersonal relationship with their employees and in some hotels the managers are not supportive to their subordinates.
- It is revealed that the respondents have a mixed bag of response where 26.5% are neutral, 25.3% have disagreed on the statement that my manager understands my problems and needs while 25% have strongly agreed to it. The reason behind this can be that the employees are working in various hotels and they have different manager, some may be helpful, some are neutral and some may not be.
- Majority of respondents have a neutral response towards the statement; Overall, I would suggest excellent communication exists within the organization I work for, while 29% have disagreed to the above. The reason behind this can be that the employees are working in various hotels and they have different forms of communication existing in the organization.
- Maximum number of respondents are neutral, 28.5% have disagreed on the statement, I feel that a good deal of cooperation exists between management and the employees of the organization I work for. The reason behind this can be that the employees are working in various hotels and they have different management, so the cooperation which exist between them would be different.
- Most of the respondents have disagreed on the statement that the organization I work for has provided excellent job training for me. The reason behind this can be that the employees are working in such industry which demands more in terms of time, and it is not necessary that the hotel management would always provide them excellent job training from the best trainers as for that they would require to take an off from their busy schedule and attend the training, maybe they may have to go to a different location. Also the cost of training is high and not all managements may approve it.
- Most of the respondents have disagreed on the statement that the training in the organization I work for has enabled me to do my job well. The reason behind this can be that the employees are working in such industry which demands more in terms of time, and it is not necessary that the hotel management would always provide them excellent job training from the best trainers as for that they would require to take an off from their busy schedule and attend the training, maybe they may have to go to a different location. Also the cost of training is high and not all managements may approve it. What they think is that, the more practical exposure they get they are able to learn on the job while doing it.
- Most of the respondents have disagreed on the statement that my organization teaches me why I should do things. The reason behind this can be that the employees are working in such industry in which they are best. They have to improve themselves in their domain; they cannot be dependent on their organization for training them.
- It is revealed that respondents have selected disagree (31.3%) individually the most on the statement that the goals for the organization I work for are very clear, but if we see the combined percentage of agree and strongly agree it exceeds 52%. So we can interpret that majority of the respondents are clear that the organizational goals are clear.
- It can be easily concluded that respondents have selected strongly agree (31.5%) the most on the statement that the instructions given by the manager have been valuable in helping me do better work, also if we see the combined percentage of agree and strongly agree it is 58%. The reason behind it is clear that the inputs received from the managers or superiors are helpful in giving better output.
- It is revealed that most of the respondents (33.5%) have disagreed on the statement that my organization provided me orientation program for me. The reason behind this can be that the employees keep joining and leaving the organization all the year around but it is not possible to provide orientation program to an individual instead it is easy to provide an orientation program for a group, but hiring may not be done always in groups, so that may be the reason.
- Most of the respondents (29.5%) have disagreed on the statement that skill and knowledge development happens as an ongoing process in my organization, but in a combined lot of agree and strongly agree 41.8% agree to the above statement. The reason behind this can be that the employees get to learn from their managers and colleagues throughout the year which helps them to improve their skill and knowledge.
- It can be easily concluded that respondents have selected strongly agree (35.3%) the most on the statement that I take responsibility for tasks outside of my own area if necessary example following up on customer requests etc. The reason behind it is clear that when a front-line employee is dealing with the client he would have to deal by himself and he cannot dump the responsibility of his on any of his colleagues or ask his manager to the call because customer satisfaction is an important parameter towards success in hospitality industry.
- Maximum respondents have selected disagree (30.5%) the most, on the statement that I have the opportunity to comment on customer initiatives before they are shown to the general public. The reason is clear that front-line employees are dealing with the client but are not given opportunity to comment before they are taken in front of public, as it depends on the management of the hotel.
- most of the respondents (35.8%) have disagreed on the statement that I have the opportunity to participate in the development of new customer initiatives. The reason behind this can be that the management is not employee centric, they take the decisions themselves and do not let the employees participate in the development of new customer initiatives.
- that most of the respondents (29.3%) have strongly disagreed on the statement that I have the opportunity to be involved in a range of organizational initiatives (example; new projects, social club, staff meetings.). The reason behind this can be that the management is taking the decisions by themselves and is not letting the employees participate in the development of new customer initiatives.
- It can be interpreted that most of the respondents (33.3%) have disagreed on the statement that I have the opportunity to discuss issues in the workplace with management. The reason behind this can be that the management wants the employee to be involved in work so they do not give them opportunities to discuss the issues in the workplace with them.
- Most of the respondents have disagreed on the statement that the employees are rewarded for good performance. The reason behind this can be that the management wants the employee to be productive from day one but they do not want to appreciate or reward him else he would start demanding more salary from them.

- Most of the respondents have disagreed or are neutral on the statement that the hotel has a reward system for the performing employees. The reason behind this can be that the management of many hotels will not be having a reward system for the performing employees.
- Most of the respondents have disagreed on the statement that the organization I work for values & recognizes my contribution to its well being. The reason behind this can be that the, employees have high expectation from the management of the hotels for the performing employees, but the management only values and recognizes something exceptional and not day to day expected achievements.
- Most of the respondents have disagreed on the statement that the organization I work for acknowledges the efforts of employees. The reason behind this can be that the management of most of the hotels don't acknowledge the efforts of the employees until unless it is exceptional, rather they expect all the employees to perform at their level best maximum time and don't expect anything from the management.
- Most of the respondents have disagreed on the statement that in the organization I work for we have staff appraisal/reviews in which we discuss what employees want. The reason behind this can be that the management of most of the hotels expects all the employees to perform at their level best all the time and in return just be satisfied with salary and have no expectations from the management.
- Most of the respondents (33.0%) have strongly disagreed on the statement that internal hiring motivates the employees. The reason behind this can be that the management may hire internally but they would not be paying as compared to the work being taken from them due to which they are de-motivated, and instead of that they would prefer to switch the organization for salary hike.
- Most of the respondents (32.5%) have strongly disagreed on the statement that aggressive training is provided for my work role and treating customers effectively. The reason behind this can be that the management may hire the staff but would have an expectation that since they are experienced staff so no aggressive training is required rather he may learn with time and give output, yes if fresher or inexperienced staff would have been selected then training was must. Also training is a costly affair, so management does not want to spend until unless it is need of the hour.
- Most of the respondents (35.0%) have disagreed on the statement that induction & orientation program forms an integral part of recruitment process. The reason behind this can be that most of the hotels which we have taken for the research are standalone hotels and the management also just expects earning short term profits. The hotel management which has chain of hotels has a system defined for induction & orientation program which forms an integral part of recruitment process.
- Most of the respondents have disagreed on the statement that, promotion is done more on merit basis rather than seniority. The reason behind this can be that most of the hotels do not follow it rather it would be done on basis of personal relationship with the manager.
- most of the respondents 29.5% have disagreed on the statement that, there are systematic HR policies & procedures followed by the organization. The reason behind this can be that most of the hotels do not follow it rather it would be done on basis of personal relationship with the manager.
- From the factor analysis it is found that 5 factors come out from the 27 variables, they are management, training & recognition by organization, HR policies & procedures, Employee Support & Initiative and Internal Recruitment/Promotion factors and have significant influence on employees' attitude towards an organization Commitment.

CONCLUSION

In this study, we examined the impact of internal branding factors in developing organizational commitment. It is found that 5 factors management, training & recognition by organization, HR policies & procedures, Employee Support & Initiative and Internal Recruitment/Promotion factors have significant influence on employees' attitude towards an organization. Employer brand acts as an inspirational tool for motivating and retaining employees in the organization; retaining an employee is much cheaper and a better alternate as compared to attracting newer talent, unless needed. This not only helps in the growth of the organization but also in lowering attrition rate.

SUGGESTIONS

Since most of the respondents are from the hotels which are standalone or belongs to a small group, the focus of the owners or management is profit driven and not system driven. If we see chain of hotels they have a system which prevails. The focus is customer and not profit, if the customer is satisfied and happy then profit will pour by itself.

FUTURE RESEARCH

This study was based on a single service industry (Hotel/Hospitality sector) which has its own specific characteristics. As it is not certain to how much extent, the substantive results of the study can be generalized to other sectors/industries. Future research can be done using the similar model on a larger population but on chain of hotels, which may focus on customers like Lemon Tree Hotels, Ginger Hotels, Sarovar Group of Hotels, etc.

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PROFITABILITY ANALYSIS OF HINDUSTAN PETROLEUM CORPORATION LIMITED

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ABSTRACT

The profitability has been considered as one of the important aspect of any commercial business. A company should earn profits to survive and grow over a long period. It is a fact that sufficient profit must be earned to sustain the operations of to be able to obtain funds from investors for expansion and diversification and to contribute forward the social overheads for the welfare of society. The higher the profit the more efficient is the business considered, so profit is useful measure of overall efficiency of the business. Profitability Analysis helps the enterprises in finding actual and true picture of profitability position. This analysis is also useful for stakeholders of the concerning Enterprise. Profitability Analysis of Public sector Oil Companies is very essential to know about general profitability and overall profitability. Profit of the oil companies is completely depend upon the ups and downs of international crude oil prices and on the incurred cost of crude oil The objectives of the study is to find out the Profitability of the organization to examines relationship between different Profitability Ratios. This study is based on the secondary data, which is collected from the Annual Reports of Hindustan Petroleum Corporation. Ratio analysis as a tool is used for data analysis. Under analysis, General Profitability Ratios and Overall Profitability Ratios are calculated to know about the said objectives. In General profitability Ratios Gross profit, Net profit, Operating profit and Cash profit is calculated and graphically presented and in overall profitability Ratios, Return on Investment, Return on shareholders' investment is calculated and graphically presented. At last t-test used for Hypothesis, testing is accepted i.e. there is no significant difference in the Net Profit of Hindustan Petroleum Corporation in the five years of study. The study suggested to management to concentrate on decreasing operating cost and increasing operating profit for profitability of the Hindustan Petroleum Corporation Limited. Company's average operating Ratio was 94.85% this shows high operating cost during five year of study, which is not good for the Hindustan Petroleum Corporation profitability because low operating cost always desirable for companies. Therefore, it is suggested to do efforts on decreasing their operating cost.

KEYWORDS

crude oil, Efficiency, Profitability.

INTRODUCTION

Profit is the difference between revenue and expenses over a period (usually one year). Profit is the ultimate "output" of a company and it will have no future if it fails to make sufficient profit earnings. Therefore, the financial manager should continuously evaluate the efficiency of the company in terms of profit. Profitability analyses are essential for fulfilling social goals as well as find the sources of finance for the growth of business. Economic and business conditions do not remain same at all times. There may be adverse business conditions like recession, depression, competition etc. A business will be able to survive under unfavorable situations only if it has some past earnings to repay upon. Profitability analysis helps to find out the profitability of business in future as well as past. The Profitability Ratios have calculated to measure the operating efficiency of the company. Beside management of the company, creditors and owners are also interested in the profitability of the organization. Profitability ratios are divided into two types: margins and returns. Ratios that show margins represent the firm's ability to translate sales dollars into profits at various stages of measurement. Ratios that show returns represent the firm's ability to measure the overall efficiency of the firm in generating returns for its shareholders. Creditors want to get interest and repayment of principal regularly. Owners want to get a required rate of return on their investment. This is possible only when the company earns enough profit. We can conclude that, profitability is a barometer for measuring efficiency and economic prosperity of business enterprise. Generally, two major types of profitability ratios have calculated under Profitability Analysis. General profitability ratio, they are related to sales. Overall profitability ratio, they are related to investments.

COMPANY PROFILE

According to the Annual reports, Hindustan Petroleum Corporation is an undertaking of Government of India and it is one of the major integrated oil refining and marketing companies in India. It is a Mega Public Sector Undertaking (PSU) with NAVRATNA status and a Fortune 500 and Forbes 2000 company, with an annual turnover of Rs. 1, 90,048 Crores and sales/income from operations of Rs 2, 15,675 Crores (US\$ 39.726 Billion) HPCL owns the country's largest Lube Refinery with a capacity of 335,000 Metric Tonnes which amounts to 40% of the national capacity of Lube Oil production. HPCL has given India a firm ground in this sector with its world-class standard of Lube Base Oils. Presently HPCL produces over 300 plus grades of Lubes, specialties and Greases. In HPCL around 11000 Employees are working in various refining and marketing locations in India Company has been used innovative techniques to enhance the effectiveness of employees. Company engaged in products like Petrol, Diesel, Lubricants, and Aviation Turbine fuel. HPCL, along with its joint ventures, will be a fully integrated company in the hydrocarbons sector of exploration and production, refining and marketing; focusing on enhancement of productivity, quality and profitability; caring for customers and employees; caring for environment protection and cultural heritage. It will also attain scale dimensions by diversifying into other energy related fields and by taking up transnational operations. To be a World Class Energy Company known for caring and delighting the customers with high quality products and innovative services across domestic and international markets with aggressive growth and delivering superior financial performance. The Company will be a model of excellence in meeting social commitment, environment.

REVIEW OF LITERATURE

Vivek Sharma (1996) under the study, Comparative financial analysis of public sector Enterprises of Madhya Pradesh, the researcher has taken 10 years secondary data of 30 SLPEs (State level enterprises of public sector), an attempt has been made in this study to analyze the capital structure Analysis, Working capital Analysis, Profitability analysis. The study concluded with suggestions that each and every SLPE in state should establish independent objectives to be achieved. It is also suggested that all the SLPEs should be used financial management tool of social cost benefits analysis further, The study suggested to follow the technique of MOU

as a tool of control and composite financial Index (FI) To give a review of work, we may suggest that researcher must use the tool comparative analysis and trend analysis of SLPEs which helps in comparison between various items of financial statement and trends of SLPEs under the period of study.

Preeti Mishra (2009) has comparatively studies working capital Management of HPCL and BPCL The sources of data collection is secondary collected from the annual reports of HPCL and BPCL from 2003-2007. The objectives of study was to examine the overall working capital Management, to know the weakness and strength of the both firms and to make to forecast about the future prospects and to examine how BPCL and HPCL has performed in managing the working capital in the competitive Environment. Financial tool like Ratio analysis Trend Analysis and Comparative statement Analysis has been used in the study. At last the Researcher has concluded with suggestions that companies have to meet, the present working capital needs to identify and locate the idle assets of the firm and dispose of the same at competitive prices.

Asha Sharma (2012) compares the financial performance, of India's five leading oil and petroleum companies i.e. Oil and Natural Gas Corporation, Reliance Petroleum Limited, Oil India Limited, Hindustan Petroleum Corporation and Cairn India Limited. She used ratio analysis as a financial tool to analyze the profitability, solvency position and liquidity position of companies and to identify the net profit and EPS growth rate performance of companies. The major findings of the study are profitability decline, Financial strength is not highly satisfactory, Financing was mainly through owners fund It is concluded that the overall performance of Oil and Natural Gas Corporation found highly satisfactory in net profit, growth on the profitability level, short term liquidity position, efficiency level, solvency capacity and investment analysis.

A.Vijayakumar, P.Gomathi (2013) has done Empirical Analysis of the Profitability of Indian Oil Refineries like Reliance Industries Ltd and Chennai Petroleum Corporation Ltd, Mangalore Refinery Petrochemicals Ltd and Essar Oil Ltd Hindustan Petroleum Corporation Ltd, Bharat Petroleum Corporation Ltd. The researcher has used Profitability ratios. Various statistical tools such as mean, standard deviation, variance, compound annual growth rate, regression have been used in the study. The study concludes that the operating efficiency of selected oil refineries in India was satisfactory and the management generally succeeded in investing capital funds. The performance of Reliance Industries Ltd and Chennai Petroleum Corporation Ltd was good during the study period. Mangalore Refinery Petrochemicals Ltd and Essar Oil Ltd have not performed well during the period of study.

Arush Bhutani (2013) has comparatively studied the IOCL with its competitor like BPCL and HPCL. Researcher used secondary data of last 5 years. Tools of Financial analysis like comparative analysis and Ratio analysis have been used to understand the position and status of IOCL in the industry. An attempt has been made in this study to analyze the Porter's 5 forces model used for SWOT analysis of IOCL with its competitors. Study concluded that, the overall position and profitability position of IOCL is better in comparison to HPCL an BPCL, but there are some grey areas where it needs to improve which are P/E ratio, EPS Ratio and Return on Capital employed

IMPORTANCE OF STUDY

Every company is concerned with its profitability. One of the most frequently used tools of financial ratio analysis is profitability ratios, which are used to determine the company's bottom line and its return to its investors. Profitability measures are important to each and every stake holder Profitability ratios show a company's overall efficiency and performance. The profitability has been considered as one of the most important aspect of any commercial business. Economic and business conditions do not remain same at all times. There may be adverse business conditions like recession, depression, competition etc. Therefore such kind of studies are must for corporate sector, they will be able to survive under unfavourable situations only if they have some past earnings to repay upon. This study is very beneficial for the companies those who want to take decision for expansion and growth. As we all know that there is cut throat competition in the market so for facing challenges and surviving in the market, studies and research to know about earning capacity is very important for companies. It is a fact that these types of studies help in decision making about sufficient profit must be earned to sustain the operations of to be able to obtain funds from investors for expansion and diversification and to contribute forward the social overheads for the welfare of society.

STATEMENT OF THE PROBLEM

Every Business undertaking is depend upon Profit earning capacity and return on Investments. The main requirement of the companies is to maintain and retain the earnings. Therefore corporate have to find out financial position of the business and Profitability status to analyze the Financial Statements through financial analysis. Ratio analysis is an important tool under financial analysis where profitability ratios are calculated to find out the Gross Profit, Net Profit, Return on Investment etc. In this Study, the statement of the Problem is to analyze the profitability of Hindustan Petroleum Corporation Limited during the five years of study. Through this study, the company can understand the actual position of the company and can take corrective measures for further improvement. The study suggested to management to concentrate on decreasing operating cost and increasing operating profit for the profitability of the Company.

OBJECTIVES OF THE STUDY

1. To find out the Profitability of the organization.
2. To examines relationship between different Profitability Ratios.

HYPOTHESIS

There is no significance difference in the Net Profit of HPCL.

RESEARCH METHODOLOGY

Research is a scientific and systematic research for pertinent information on a specific topic. In fact, Research is an art of scientific investigation. Research Methodology is a way to systematically solve the research problems. Research means Re-Search again and again till the extension of knowledge. The proposed study would be descriptive in nature and it is purely based on secondary data. The data has been collected by readily available sources and other published data available at Hindustan Petroleum Corporation like Annual Reports, Schedules etc. Secondary data will also be gathered from Journals, Magazines and published research papers. The data has been mainly collected by financial statements of Hindustan Petroleum Corporation Limited that is balance sheet and Profit and Loss accounts and their schedules along with the information some data has also been collected through personnel observations of emporium offices, management, administration etc. The data pertaining to consecutive tenure of 05 years (2008-9 to 2012-13) would be analyzed to attain the said objectives. Analysis techniques like Ratio Analysis have been used, to reach appropriate conclusion regarding the profitability and overall efficiency of the company and t-test has been applied for Hypothesis Testing. In the analysis General profitability Ratios and overall profitability Ratios are calculated like Gross profit ratio, Net profit Ratio, Cash profit Ratio, Operating Ratio and ROI, return on shareholder's investment or net worth, Proprietors Capital Employed Ratio

RESULTS AND DISCUSSIONS

PROFITABILITY ANALYSIS

A. GENERAL PROFITABILITY RATIO

GROSS PROFIT RATIO

The first profitability ratio is related to sales is the Gross profit ratio. It measures the relationship of Gross profit to Net sales and is usually represents as a percentage. Thus, it is calculated by dividing gross profit by sales. The formula of calculating gross profit ratio is follows:

$$\text{Gross Profit Ratio} = \frac{\text{Gross Profit}}{\text{Net Sales}} \times 100$$

Here; Gross profit = Net sales — Cost of goods sold

The ratio indicates spread between the cost of goods sold and sales revenue. a high gross profit margin related to the industry average implies that the firm is able to produce at relatively lower cost. The gross profit is found by deducting cost of goods sold from the net sales. Higher the gross profit ratio better the result. A lower gross profit margin may reflects higher cost of goods sold due to the firm’s inability to purchase raw material at favorable terms, and insufficient utilization of plant and machinery over investments etc. There are no standard norms for gross profit ratio and it may vary from business to business, but the gross profit should be adequate to cover operating expenses and to provide for fixed charges, dividends and accumulation of reserves.

GROSS PROFIT RATIO

TABLE 1

Year	Gross Profit (in crores)	Net Sales (in crores)	Ratio (in percentage)
2008-09	3776.36	131802.65	2.86
2009-10	4193.18	114888.63	3.64
2010-11	4637.09	142336.49	3.25
2011-12	5156.44	188130.95	2.74
2012-13	5428.31	215675.49	2.51

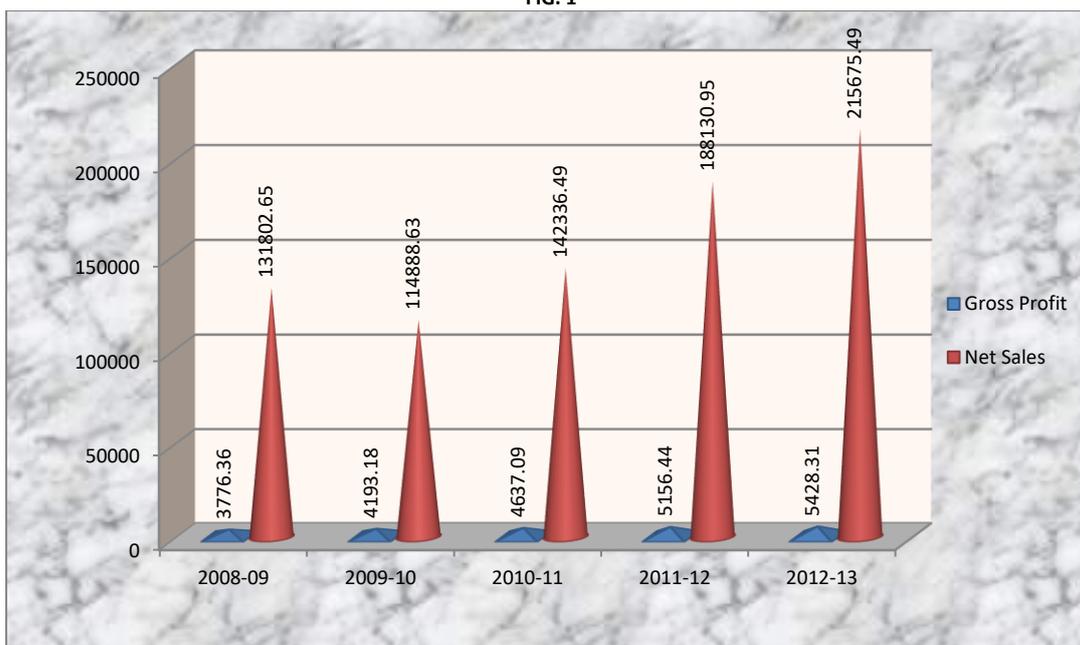
Source: Published annual report of HPCL 2008-13

ANALYSIS AND INTERPRETATION

The gross profit ratio of Hindustan Petroleum Corporation Ltd. remained at an average of 2.6% during 5 year of the study. In 2008-09 the gross profit ratio was 2.86% and in 2009-10 the gross profit ratio was 3.64% was slightly increased in 2010-11, it was 3.25% and in these two years ratio was highest but 2011-12 the ratio was 2.74% and in 2012-13 it was 2.51%. It was the lowest during the five year of the study. In addition, here both net sales and profit has increased but profit has not increased in the same proportion as the net sales have increased. A high gross profit ratio is the sign of good management system and higher gross profit shows the efficiency with which the firm carries out its operations.

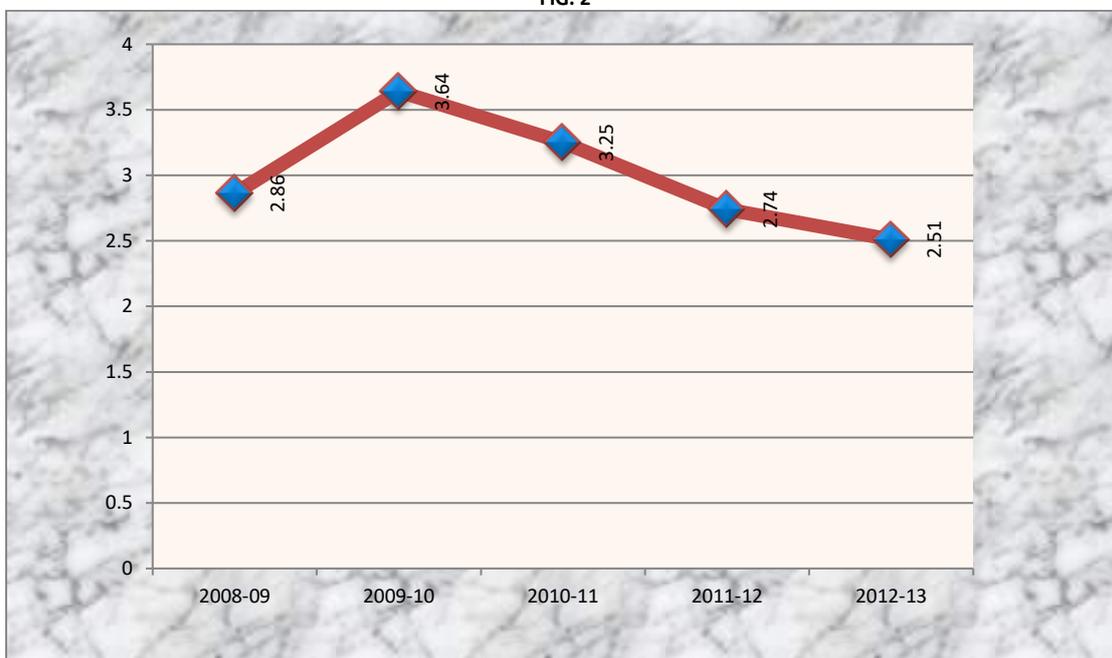
GROSS PROFIT RATIO

FIG. 1



GROSS PROFIT RATIO (in %)

FIG. 2



OPERATING RATIO

Operating ratio establish the relation between cost of goods sold and other operating expenses on one hand and sales on other hand. In other words, it measures the cost of operation per rupee of sales. The ratio has calculated by dividing operating cost, which has cost of good, sold and operating expenses by net sales is expressed percentage. The formula of calculating operating ratio is follows:

Operating Cost

$$\text{Operating Ratio} = \frac{\text{Operating Cost}}{\text{Net Sales}} \times 100$$

This ratio indicates the percentage of net sales, which has absorbed by the operating cost. A high operating ratio indicates that only a small margin of sales is available to meet the expenses in the form of interest, dividends, and other non- operating expenses. As such, low operating costs will always be desirable. There is no rule of thumb for the ratio as it depends on nature of business. However, 75% to 85% can be considering good ratio in case of manufacturing concern.

OPERATING RATIO

TABLE 2

Year	Operating Cost (in millions)	Net Sales (in crores)	Ratio (in percentage)
2008-09	110412.39	131802.65	83.77
2009-10	123109.21	114888.63	107.15
2010-11	132489.51	142396.49	93.04
2011-12	178141.67	188130.95	94.60
2012-13	206472.45	215675.49	95.70

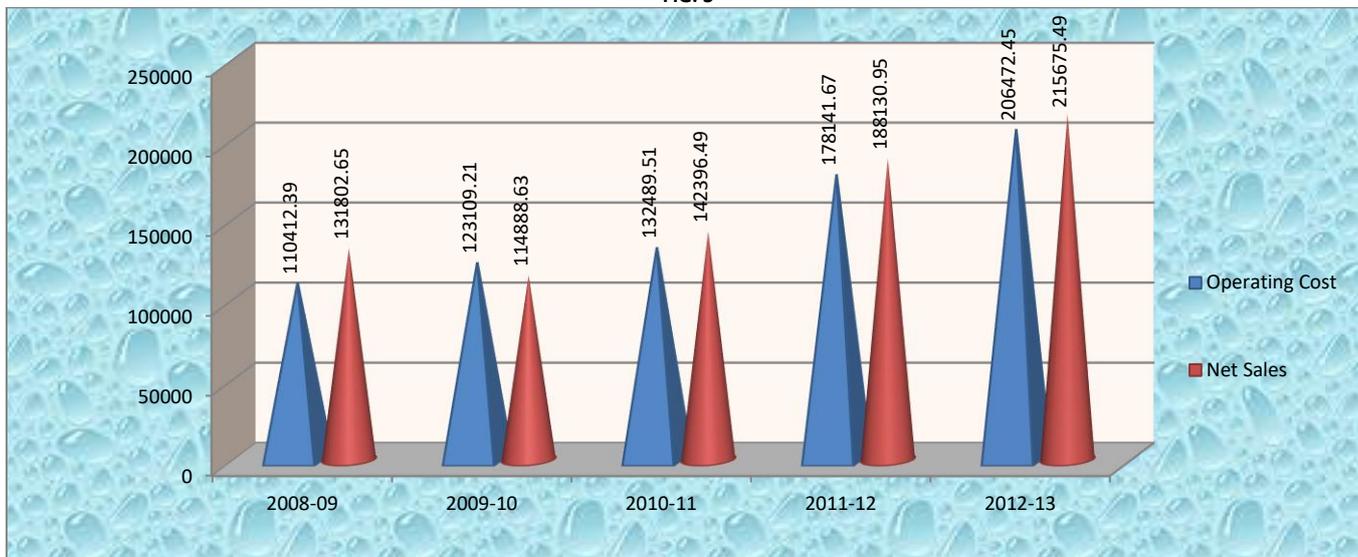
Source: Published annual report of HPCL 2008-13

ANALYSIS AND INTERPRETATION

The operating ratio of Hindustan Petroleum Corporation Ltd. remained at an average of 94.85% during the five year of the study, which is quite high as compared to what standard. It means only 10% - 20% were available to come interest income tax and dividend etc. and this situation is not very good. In the year 2008-09, the operating ratio was 83.77%, which is increase in the year 2009-10 by 107.15%. This is the highest share during the five year of study. In 2010-11, the ratio has slightly decreased by 93.04%, but again it has increased in 2011-12 – 96.4% and 2012-13, 95.77%. A low operating profit ratio is the sign of good efficiency with which the firm carries out its operations operating ratio has a fluctuation trend because sales were continuously increased but operating cost not increased as sales.

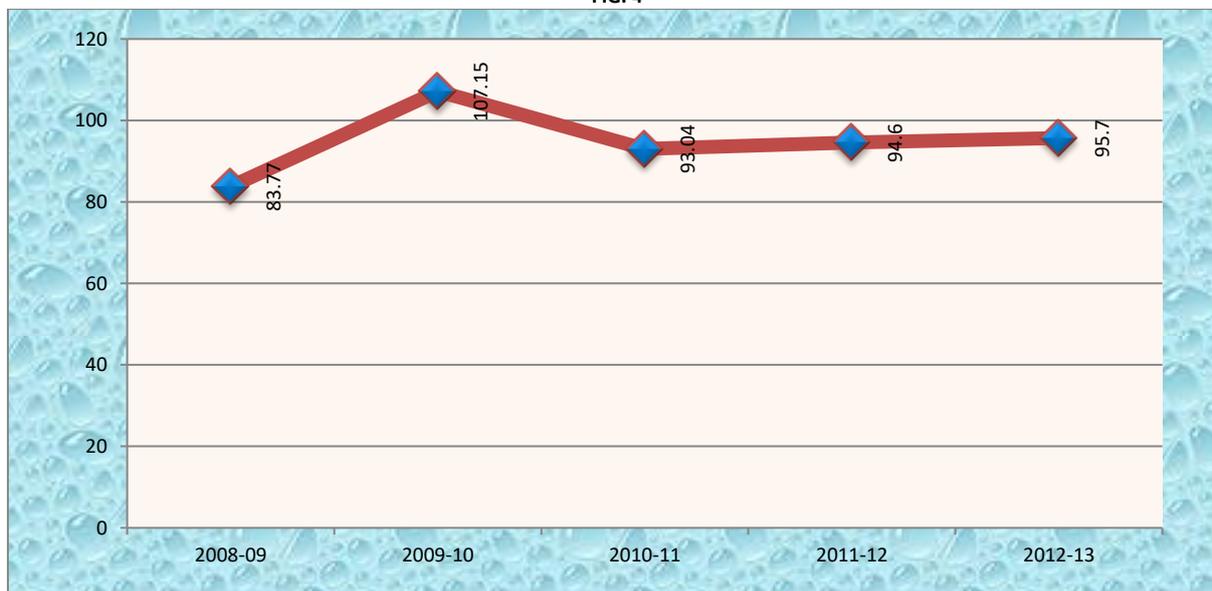
OPERATING RATIO

FIG. 3



OPERATING RATIO (in %)

FIG. 4



NET PROFIT RATIO

Net Profit Ratio is established a relationship between Profit after tax and Net sales, and indicate the efficiency of the management in manufacturing, selling, administrative and other activities of the company. This ratio is overall measures the company's profitability. In other words Net profit is obtained when operating expenses, interest and taxes had subtracted from the gross profit. It shows the portion of sales has left to the proprietors after all cost; charges and expenses have been deducted. The formula of calculating net profit ratio is follows: This ratio is widely used as a measure of overall efficiency and is very useful to the proprietors. There is no particular norms to interpret the ratio, however highest the ratio; the better is the profitability, but while interpreting the ratio is should be kept in mind that the performance of the profit is must also be seen in relation to investment or capital of the company.

$$\text{Net Profit Ratio} = \frac{\text{Net Profit (after tax)}}{\text{Net Sales}} \times 100$$

NET PROFIT RATIO

TABLE 3

Year	Net Profit (in millions)	Net Sales (in millions)	Ratio (in percentage)
2008-09	574.98	131802.65	0.43
2009-10	1301.37	114888.63	1.13
2010-11	1539.01	142396.49	1.08
2011-12	911.43	188130.95	0.48
2012-13	904.71	215675.49	0.42

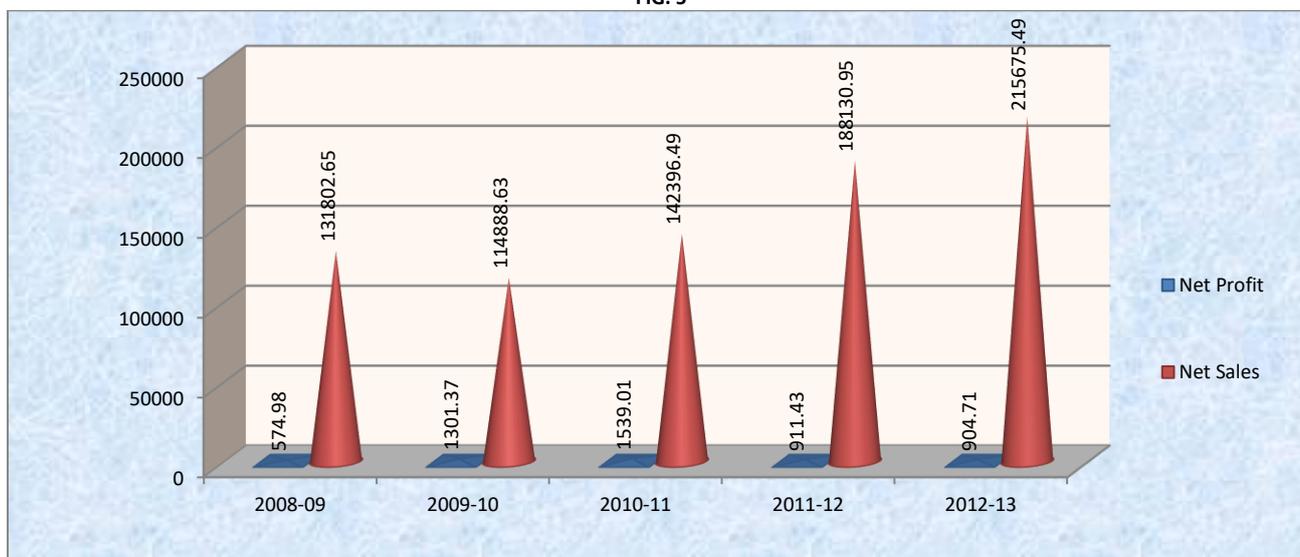
Source: Published annual report of HPCL 2008-2013

ANALYSIS AND INTERPRETATION

The net profit ratio is calculated for Hindustan Petroleum Corporation Ltd. has range of 0.42% to 1.13% during the five year of the study. The average of this ratio was 0.70%. The ratio was 0.43%, in the year 2008-09 It was increased in next two years 1.13% and 1.08%. This was the highest ratio during the five year of study. In the year 2011-12, it was decreases up to 0.48% because their net sales increases but net profit increases similarly in the year 2012-13. Net profit again decreases and net sales increases and this is the lowest ratio during the study of five years. The highest ratio shows the better profitability because if the profit is not sufficient the firm shall not be able to achieve a satisfactory return on investment.

NET PROFIT RATIO

FIG. 5



NET PROFIT RATIO (in %)

FIG. 6



CASH PROFIT RATIO

The net profit of the company are effected by amount / method of depreciation charged. Further, depreciation being non-cash expenses, it is better to calculate cash profit ratio. The formula of calculating net profit ratio is follows:

$$\text{Cash Profit Ratio} = \frac{\text{Cash Profit}}{\text{Net Sales}} \times 100$$

Here, Cash Profit = Net Profit + Depreciation.

Because depreciation is none each expenses and we have to add depreciation in the net profit which is already subtracted from net sales as expenditure, so it is better to calculate cash profit ratio to find out actual situation of cash in the company.

CASH PROFIT RATIO

TABLE 4

Year	Net Profit (in millions)	Net Sales (in millions)	Ratio (in percentage)
2008-09	1556.27	131802.65	1.18
2009-10	2465.77	114888.63	2.14
2010-11	2945.96	142396.49	2.06
2011-12	2624.36	188130.95	1.39
2012-13	2839.13	215675.49	1.31

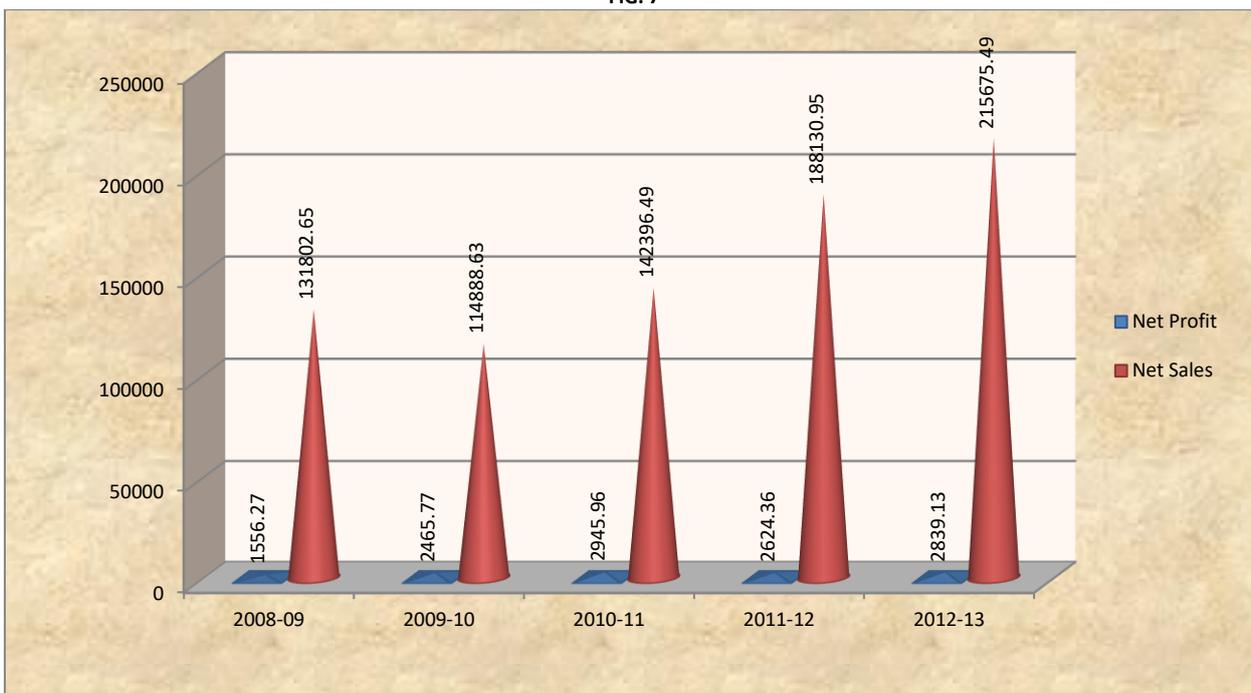
Source: Published annual report of HPCL 2008-2013

ANALYSIS AND INTERPRETATION

The average of cash profit ratio was 1.61% during the five year of the study. In the year 2008-09, there was lowest ratio i.e. 1.18%. But it has increased in next two years 2009-10 i.e. 2.14% and in 2010-11 i.e. 2.06%. In the year 2011-12, the ratio was 1.39% decline and similarly in 2012-13 it was 1.31% because net sales has increased but cash profit has not be increased.

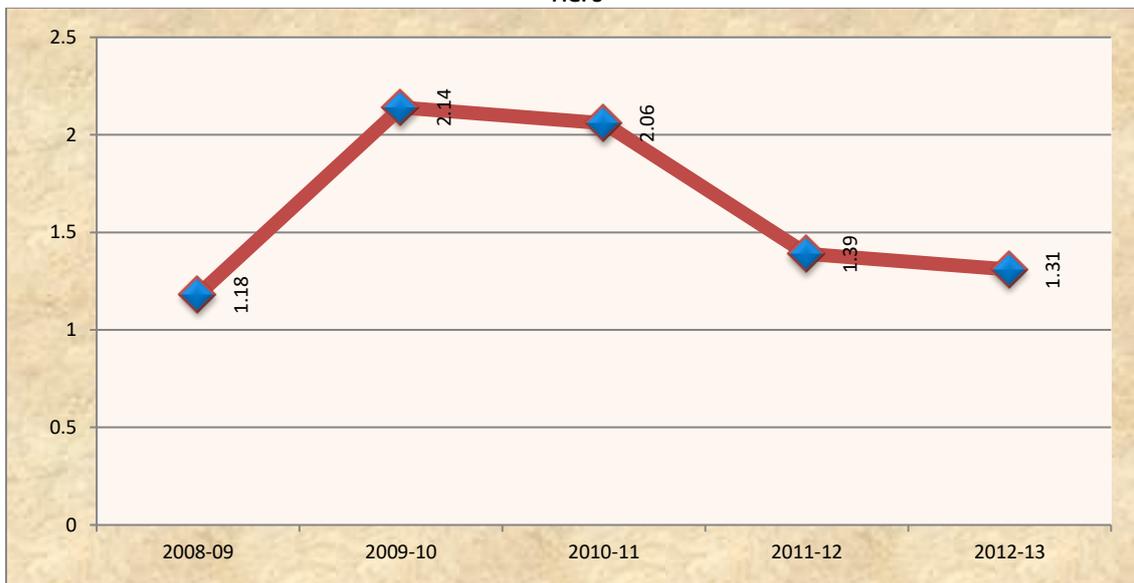
CASH PROFIT RATIO

FIG. 7



CASH PROFIT RATIO (in %)

FIG. 8



B. OVERALL PROFITABILITY RATIO

RETURN ON SHAREHOLDER'S INVESTMENT OR NET WORTH

The term investment may refer to the total assets or net assets. The funds employed in net assets are known as capital employed. The two basic components of this ratio are Net profit and Shareholder's fund. Shareholder's funds equity share capital, preference share capital, free reserves such as share premium, revenue reserve, capital reserve, retained earnings and surplus less accumulated loss if any. Net profit is visualized from the viewpoint of owners that is shareholders. Thus, net profit is arrived at after deducting interest on long-term borrowing and income tax, because those will be the only profit available for shareholders. The formula of calculating Return on shareholder's funds ratio is follows:

$$\text{Return on Shareholder's} = \frac{\text{Net Profit (after Tax)}}{\text{Investments Shareholders fund}} \times 100$$

To sum up: Shareholder's investments = Equity share capital + Preference share capital + Reserve and Surplus — accumulated loss (if any).

This ratio is one of the most important ratios used for measuring the Overall efficiency of the company. This ratio indicates the extent to which the primary objective earning maximization is being achieved.

TABLE 5: RETURN ON SHAREHOLDER'S INVESTMENT OR NET WORTH

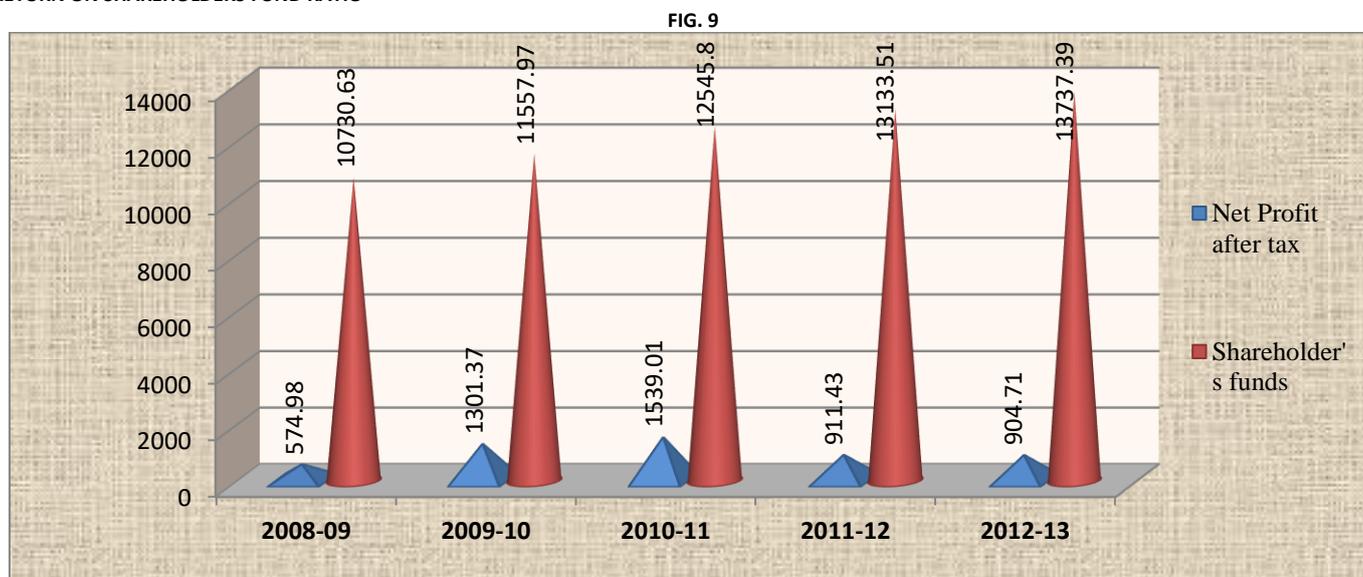
Year	Net Profit after tax (in crore)	Shareholder's funds (in crore)	Ratio (in percentage)
2008-09	574.98	10730.63	5.35
2009-10	1301.37	11557.97	11.25
2010-11	1539.01	12545.80	12.26
2011-12	911.43	13133.51	6.93
2012-13	904.71	13737.39	6.58

Source: Published annual report of HPCL from 2008-13

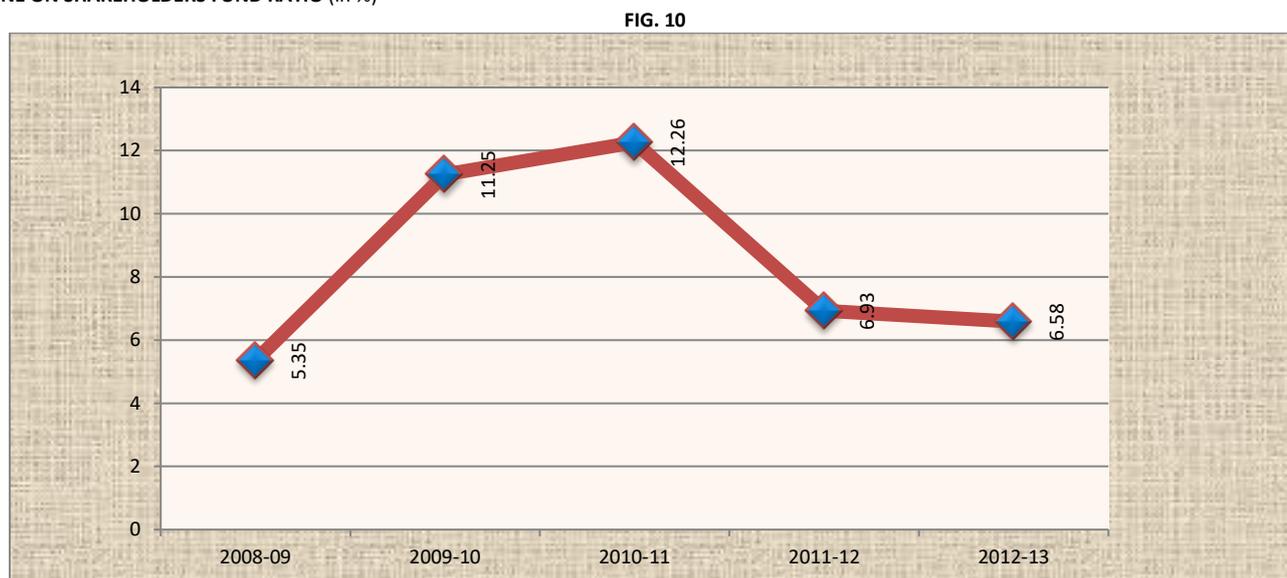
ANALYSIS AND INTERPRETATION

The average of Return on shareholder's investment was 8.474%. In the year 2008-09, the ratio was 5.35% and in the next two year, the ratio has increased up to 11.25% in the year 2009-10 and 12.26% in the year 2010-11. It was the highest ratio during the five year of the study because the net profit and shareholders both has increased; however, after it has decreased in the year 2011-12 and 2012-13 was 6.93% and 6.58%, respectively. Because the net, profit decreased against shareholder's fund. The company should try to keep high rate of return on shareholder's fund, it shows the better profitability of the company. The increased ratio is the sign of efficient operational quality of the company.

RETURN ON SHAREHOLDERS FUND RATIO



RETUNE ON SHAREHOLDERS FUND RATIO (in %)



PROPRIETOR'S CAPITAL EMPLOYED

Proprietor's Capital Employed means shareholders' funds or investments in the business. This term is same as Return on shareholders' Investments (ROI) or Return on Capital Employed. The formula of calculating Proprietor's Net capital employed ratio is follows:

$$ROI = \frac{\text{Operating Profit}}{\text{Net Capital Employed}} \times 100$$

Here; Proprietor's Net Capital Employed = Fixed Assets + Current Assets – Outside Liabilities

For the purpose of this study Net capital Employed and Operating profit has been taken in to account. There is no particular norm to interpret this ratio; the more efficient company is the company in using funds entrusted to it and better economic condition of the enterprise.

PROPRIETOR'S CAPITAL EMPLOYED

TABLE 6

Year	Operating Profit	Net Capital Employed	Ratio (in percentage)
2008-09	21390.26	4237.22	504.81
2009-10	8220.58	4086.83	201.17
2010-11	9906.98	6984.37	141.83
2011-12	9989.27	28406.99	35.16
2012-13	9203.04	32982.08	27.90

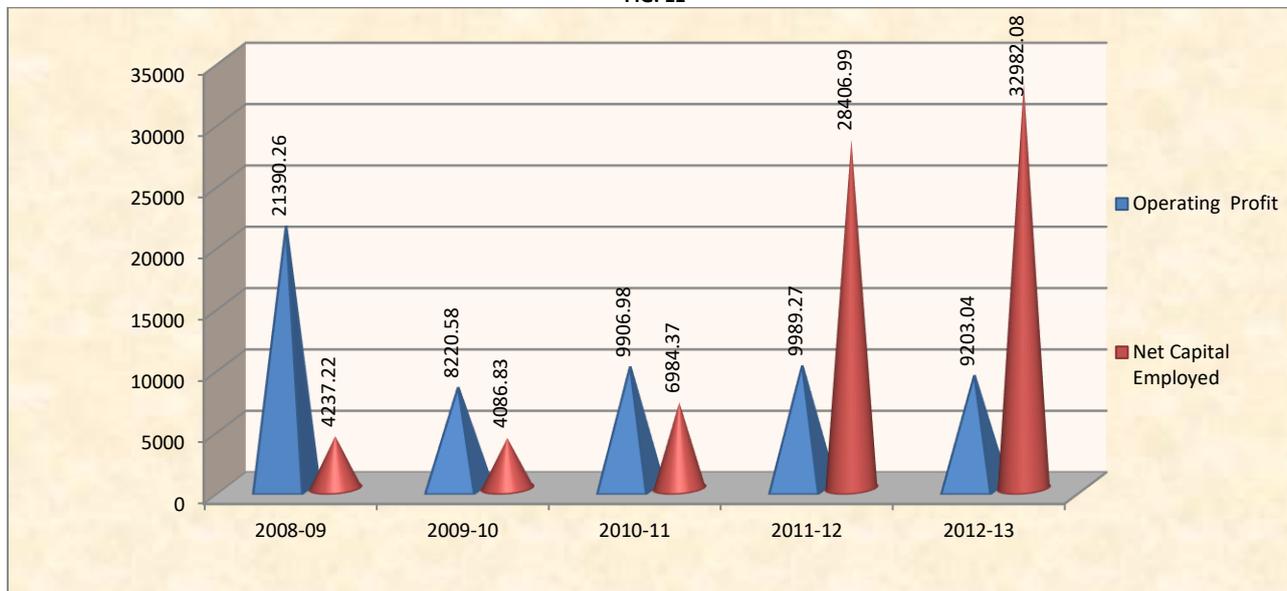
Source: Published annual report of HPCL from 2008-2013

ANALYSIS AND INTERPRETATION

The average of return on proprietor's net capital employed was 182.04%. In the year 2008-09, the ratio was 504.81%, it was the highest ratio during the five year of the study, because there was net profit and proprietor's net capital employed both has increased but net profit much increased than proprietor's net capital employed after it has decreased in the year 2010-11 and 2011-12 was 141.83% and 35.16% respectively, because the net profit of the company has not as increased as net capital employed by proprietor's or invested in the business in that particular year. In the last year 2012-13 the net profit decreased against proprietor's net capital employed that's why it was the lowest ratio during the five year of study. It means they could not get that much profit which net capital they had invested. Thus, company should try to keep high rate of return on net capital employed it shows the efficiency with which management has effectively utilized funds provided by owners and long term creditors.

PROPRIETORS CAPITAL EMPLOYED RATIO

FIG. 11



PROPRIETORS CAPITAL EMPLOYED RATIO (in %)

FIG. 12



HYPOTHESIS TESTING

Hypothesis of the study is:

Ho -There is no significance difference in the Net Profit of HPCL

For the calculation of t-test, we have to calculate the value of $r = 0.69$. By applying t-test, the calculated value is 4.05 and from the t distribution with 3 degrees of freedom for a 5%, level of significance the table value is 5.841. Then we compare the table and calculated value, we find that, table value is more than calculated value i.e. $5.841 > 4.05$ Thus we concluded that, this r of 0.69 for $n=5$ are not significantly different from zero

Hence, null hypothesis is accepted.

TABLE 7

Value of r	Table value at 5% level of significance	Calculated value	Interpretation	Result
0.69	5.841	4.05	5.841 > 4.05	Null Hypothesis accepted

FINDINGS & SUGGESTION

1. Companies net profit (after tax) does not show the increasing trend of profit and it is decreasing continuously in the year 2011-12 and 2012-13, which is an indication of improving condition of business,. Because it shows the efficiency of the management in manufacturing selling, administrative and other expenses and it is obtained when operating expenses, interest and taxes are subtracted from the gross profit. Therefore, it is suggested to management to concentrate on decreasing operating cost and increasing operating profit for profitability of the Hindustan Petroleum Corporation Limited.
2. Company's average operating Ratio was 94.85% this shows high operating cost during five year of study, which is not good for the profitability because low operating cost always desirable for companies. Therefore, it is suggested to HPCL to do efforts on decreasing their operating cost.
3. Company is suggested to keep try high returns on capital invested by owners and creditors, because the high returns on capital employed or total assets turnover has indicated the operational efficiency of the business.

LIMITATIONS OF THE STUDY

- This study is based on secondary data.
- The reliability of data is totally depended on the audit reports available.
- This study has specific and limited time period 2008-9 to 2012-13

SCOPE FOR FURTHER RESEARCH

Scope means the area or the coverage of the study where the work done will be useful for further research and developments. The study, profitability analysis of Hindustan Petroleum Corporation limited is very helpful for the oil and gas industry. It gives an idea to petroleum companies about their grey areas and how to improve their financial weaknesses. On the basis of the study future researcher may study other aspects like capital structure analysis, financial appraisal, working capital analysis etc. This study is also beneficial for all stakeholders like shareholders, Investors, Creditors, general public and Government. The study is also helpful for researchers who want to know about the study and its conclusion for further research.

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E-COMMERCE AND CONSUMER RIGHTS: A STUDY ON CONSUMER PERCEPTION WITH SPECIAL REFERENCE TO AHMEDABAD

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ABSTRACT

E-Commerce is the process of buying and selling goods and services on the Internet. Since the emergence of the World Wide Web, merchants have sought to sell their products to people who surf the Internet. Shoppers can visit web stores from the comfort of their homes and shop as they sit in front of the computer. Now a day, online shopping has become popular among people, they have become techno savvy and feel very comfortable in using internet. So online shopping has become a trend that is why it is necessary to make a study on online shopping usage and perception. This research has identified key factors affecting to Customer to Business context. The research has tried to search the perception regarding consumer rights. Research has tried to find out the consumer rights awareness in online purchasing.

KEYWORDS

e-commerce, consumer, consumer rights, awareness.

INTRODUCTION

Over the past two decades technologies diffuse rapidly in the modern global economy as a consequence of continuing electronic, technological and scientific advancements. The globalization of the market place, economy and the means of accessing the market through the national and global information superhighways have given a new dimension to the concept of business or commerce. Technologies that are associated with the electronic commerce have brought a revolution in the way business takes place.

E-Commerce blue print captures full spectrum of business processes that are being redefined and improved by leveraging the Internet and its associated technologies towards success. E-commerce means using the Internet to connect people and processes. It can be anything from building a website to having an integrated value chain that allows trader, seller as well as customer to work simultaneously and automatically. In simple words, e-Commerce is web enable existing business processes to conduct transactions over the Internet. It opens new doors for customers around the world, improves efficiency, increases profits and delivers better customer services.

E-Commerce (electronic commerce) is the buying and selling of goods and services on the Internet. It helps in conducting traditional commerce through new ways of transferring and possessing of information since information is the lifeblood of any business. It is about taking advantage of revolutionary new technology to improve operating efficiencies, maintain or extend the lead over competition. E-Business (Electronic Business) is the conduct of business on the Internet, not only buying and selling but also servicing customers and collaborating with business partners. E- Business encompasses the use of technologies, process and management practices that enhance organizational competitiveness through strategic use of electronic information.

DEFINITIONS

E-COMMERCE

Wigand defines e-Commerce as, "The seamless application of information and communication technology from its point of origin to its endpoint along the entire value chain of business processes conducted electronically and designed to enable the accomplishment of a business goal. These processes maybe partial or complete and may encompass business to business as well as business to consumer and consumer to business transactions.

The Gartner Group defines e-Commerce as an evolving set of:

- (a) Home-grown or packaged software applications that link multiple enterprises or individual consumers to enterprises for conducting business;
- (b) Business strategies aimed at optimizing relationships among enterprises and between individuals and enterprises through the use of information technologies;
- (c) Business process (such as procurement or selling or orders status checking or payment) that cross boundaries; and
- (d) Technologies and tools that enable these applications, strategies and processes to be implemented and realized.

CONSUMER RIGHTS

There are six rights of consumer, which are provided in the *Consumer Protection Act, 1986*.

1. Right to safety: Right to protection against hazardous goods.
2. Right of informed: Right to be informed about the quality, quantity, potency, purity, standards, weighing alternatives, price of goods or services, and protection from false and misleading claims in advertising and labeling practices.
3. Right to choose: Right to Access of variety of goods and services at competitive prices, quality, service.
4. Right to be heard: Right to be heard and receive Due consideration at Appropriate Forums.
5. Right to Seek Redressal: Right against unfair or restrictive Trade Practices, unscrupulous Exploitation.
6. Right to Consumer Education: Right to know about Legal Remedies.

LITERATURE REVIEW

Singh, Avtar (1994) has discussed the basic definitions as used in Consumer protection Act, 1986. This book has examined case judgements and tried to explore the applicability of consumer protection Act, 1986 to various services such as housing, airlines, banking, insurance and medical. Author has defined that the sale of Goods Act, 1930 also provides protection of some sort to buyers of goods whether consumers or not. Consumer Protection Act has made some changes in the existing structure consumer remedies, such as privacy of Contract and Tort of Negligence.

Nicoleta Dorina (1994) has found that the level of the respondents' awareness regarding the online consumers' rights and protection is low. They actually know just one of their fundamental rights as online consumers, "Online consumers have the right to clear information about product characteristics, prices (cost, hidden taxes, and payment deadline) and conditions before making any online purchase of services or goods". Websites' addresses with their significations (The websites "https", have the "s" as a guarantee for security) are the most little known facts regarding online protection.

Agarwal, A.D. (1989) in his handbook aims at educating the Indian consumers on the right methods of purchasing goods/services. It enlightens the consumers about their rights in market. Very important as well as easy remedies are mentioned for consumers for their guidance. This book has four parts. The introductory part offers guidelines on choosing and buying goods of quality like canned food products, electrical appliance, utensils etc., etc. at reasonable price. The second part deals with various types of exploitation of consumers in day to day life. The third part depicts day-to-day examples of consumer protection and legal attitude in this field. The last part of this book highlights remedies that are provided in the case of fraud with consumers by sellers. This is a very short but effective handbook for guidance to consumers. This book is focused on the consumer protection in physical world.

Bhatt Ashish (2014) has analyzed Online shopping is rapidly changing the way people do business all over the world. In the business-to-consumer segment, sales through the web have been increasing dramatically over the last few years. Understanding the factors that affect intention, adoption and repurchase are important for researchers and practitioners alike. Online shopping is gaining popularity among people specially the younger generation but in today scenario to become equally popular among all age groups e-marketing will have to cover a longer distance. The result of our study shows that mode of payment is depended upon income of the respondents. People having monthly income below Rs 1, 00,000 prefer cash on delivery and above Rs 3, 00,000 prefers Internet banking payments. People from different age groups are doing online shopping regularly. The attitude of consumers is changing with the time. From the conclusion that we got through literature review was in a country like India, online experiences are still looked up as complex and uncomfortable. People are tradition bound & have doubt in mindset as far as issue of online shopping/purchase of product is concerned but we found that Indian consumers are finding online shopping very comfortable because of many variables like cash on delivery, customization or personalization of the websites, home delivery etc.

Singh, S.N. (1987) has presented a critical analysis of the consumer protection legislations in India. An analysis of present laws for consumer protection is made in detail. It is expressed that present legislations have failed to safeguard the interests of consumers in almost all areas. A good discussion is given on various enactments, their scope, enforcement, procedure and provisions. It is concluded that the inadequacy and lethargic response of Consumer Forums and Commissions established under the Consumer Protection Act, 1986 has been the major reason of malpractices in market.

R.Kavitha (2015) has found that Majority of the populations aware about the online shopping through advertisements, frequently purchase the products through online sites. Purchase their products through Flipkart, prefer to buy electrical and electronics goods prefer quality in their purchase. Majority of the respondents are highly aware about the terms and conditions, aware about the functions of Federal Trade Commission. Majority of the populations said that the duties of this commission is to safeguard the customer, and feel that the benefit of online shopping is a time saving process, gives safety, and quality. All of them prefer cash on delivery, door delivery, and recommend the online shopping method to other people. Majority of the customers are satisfied with the product and service offered by on line shopping sites. On-line shopping in India is significantly affected by various Demographic factors like age, gender, marital status, family size and income. Sharma Renuka (2014) found that the e-commerce market has a great potential for youth segment. If the demographic features are considered carefully then it can be easily identified that maximum number of respondents of online shopping are lying in age group of 18- 25 years. Various factors identified, from that the corporate can make their marketing strategies in better way. It will help to convert their potential customers into active customers. By improving the after sales services, providing more secured payment options, timely delivery of the goods with better packaging can further boost the demand of various products and services through web stores. The market segments like toys, flowers and house wares must be targeted by the marketers on through e-tail penetration. And the market for other products and services must be expanded through more awareness among the customers. As many people has shown fear of unsecured transactions in online payment therefore the e-stores specifically mention about the security of transactions of their e-stores which will increase the faith of customers for online shopping.

Chaudhary (2001) has begun by saying that the evolution of new and fast communication systems and electronic digital technology has changed the face of worldwide business. The traditional ways of conducting business are being outmoded and to certain extent, in future, may be obsolete with the emergence of e-Commerce. The paperless electronic transactions have made it necessary that new laws, rules and regulations must be framed to deal with the drastic changes, which have occurred on account of the introduction of vast communication systems and digital technology for carrying on the business and other commercial transactions. The industries as well as the consumers are frequently using computer to transmit and store information in electronic form instead of written documents. In order to legalize and recognize transactions via Internet, e-Commerce and electronic governance, India has enacted the Information Technology Act, 2000 under the guidance of UNCITRAL Model Law, 1996. In this article, the provisions of the IT Act, 2000 have been discussed in detail. In end, the study has concluded that after reading all the provisions of the Act it is clear that there is nothing in the Act to protect the consumers from false and untrue advertisement or presentation of online information to the consumers and redressal of consumer disputes arising out of e-Commerce transactions. The other important aspects of e-Commerce are certain financial issues, such as customs and taxation in relation to sale of consumer goods. Such issues need to be resolved at the earliest to promote systematic growth of e-Commerce in India.

CONTRIBUTION OF THE RESEARCH PAPER

In this paper researcher has tried to find various factors affecting online shopping and consumer rights awareness. As the online shopping is increasing day by day the research has tried to analyze the consumer rights awareness of online shoppers. The research tries to significantly highlight the awareness of consumer rights among Gen Y consumers. It also aims in finding the most influencing factors for online shoppers.

OBJECTIVES

1. To study factors affecting online shopping.
2. To search relationship between frequency online purchasing and consumer rights awareness.
3. To find out the consumer rights awareness in online purchasing.

HYPOTHESIS

- H01 : Consumer rights awareness has positive influence to purchase Online frequently.
 H1 : Consumer rights awareness has negative influence to purchase Online frequently.
 H02 : Online Purchasers are satisfied with consumer protection laws in India.
 H2 : Online Purchasers are not satisfied with consumer protection laws in India.
 H03 : Consumer Rights awareness has positive influence on Education.
 H3 : Consumer Rights awareness has negative influence on Education.

RESEARCH METHODOLOGY

Type of Research: Analytical Study

Type of Data: Primary Data

Sampling Frame: Gen Y of Ahmedabad City

Sampling Method: Stratified Convenience Sampling

Sample Size: 100 Gen Y

Sampling Area: Ahmedabad (Gujarat)

DATA COLLECTION

Questionnaire (mail, online) is suitable to collect primary data.

RESULTS AND DISCUSSION

RELIABILITY OF MEASURES

Reliability of measures was assessed with the use of Cronbach’s alpha of all items. The Cronbach’s alpha is calculated to be 0.871. As a general rule a coefficient greater than or equal to 0.7 is considered acceptable. Hence, it was found that the data is highly reliable for further analysis.

TABLE 1: DEMOGRAPHIC PROFILE RESPONDENTS

Sr. No	Factor of Respondent	Category	Frequency
1	Gender	Male	60
		Female	40
2	Age	20-30	80
		30-40	20
3	Qualification	Below 12 (H.S.C)	8
		Graduate	36
		Post Graduate	54
4	Income	Below 1,00000	3
		1-00000-5,00000	67
		More than 5,00000	30
5	Occupation	Student	36
		Service	27
		Business	27
		House wife	0

From the above table it is evidence that male highly inclined towards E-commerce with 60%.

Education is one of the important factors to determine lifestyle, product choices and living standard. In case of E-commerce individual education is very much influencing factor as shown in above table. Income indicates that 67% of respondents have yearly income between 1,00000 to 5,00000. It is also observed that larger parts of respondent are lower middle and middle income group.

TABLE 2: FREQUENCY OF INLINE PURCHASING

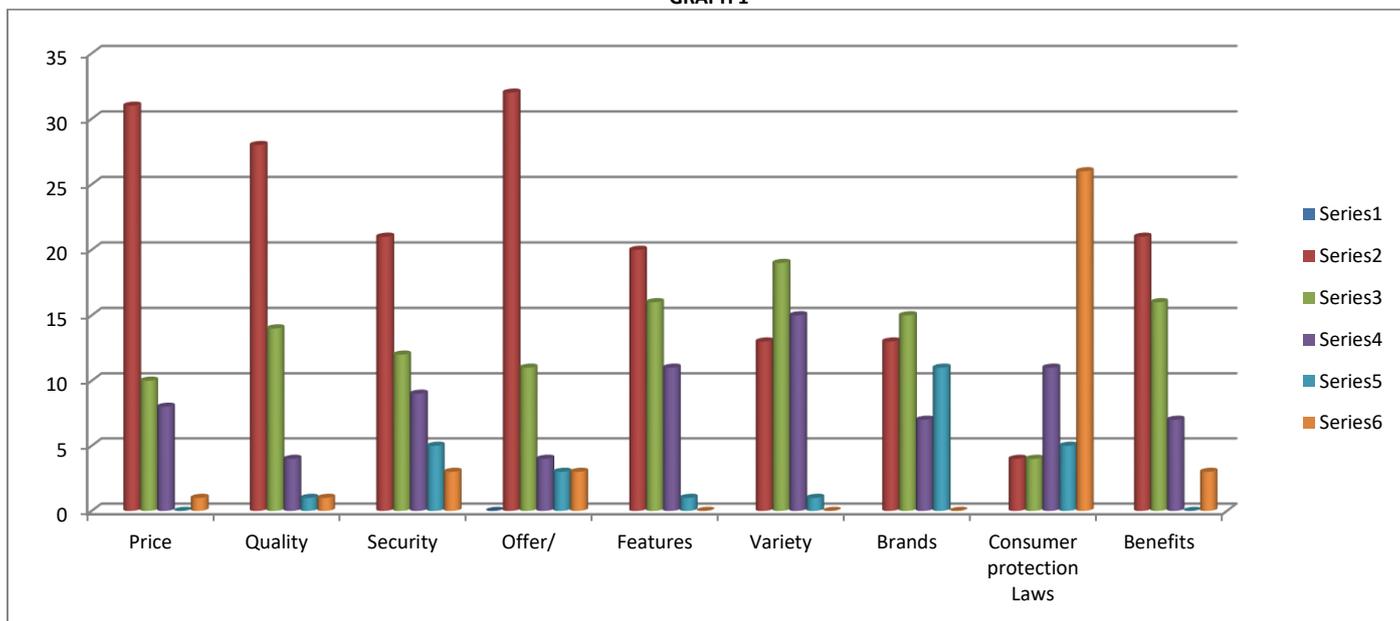
Category	Frequency/ Percentage
1. Footware	32
2. Clothing	62
3. Flower, gift and cakes	8
4. Books and Magazines	24
5. Cameras and optics	10
6. Kitechen & Home Appliances & Electronics	24
7. Laptops and computers	10
8. Memory cards, Pen drive and HDD	60
9. Mobile Phones And accessories	64
10. Watches	50
11. Photo Prints	0
12. Movie and Music	18
13. Fitness and Sports	10
14. Cosmetics and Health	20
15. Fun Stuff	4
16. perfumes	18
17. Jewellery	16
18. Baby Products and Kids Toys	2
19. Travel	24
20. Food	16
21. Groceries	2
22. Mobile recharge and Bill Payments	50

From the above table it is evident that most commonly purchased products online are Mobile Phones and accessories, Clothing and Memory cards, Pen drive and HDD.

TABLE 3: FACTORS AFFECTING TO ONLINE PURCHASING

Factors	Price	Quality	Security	Offer/Discount	Features	Variety	Brands	Consumer protection Laws	Benefits
1	31	28	21	32	20	13	13	4	21
2	10	14	12	11	16	19	15	4	16
3	8	4	9	4	11	15	7	11	7
4	0	1	5	3	1	1	11	5	0
5	1	1	3	3	0	0	0	26	3

GRAPH 1



From the above graph, we conclude that the Most important factors affecting to online purchasing are Discount and Price of the product, while the least important factor affecting online purchasing is Consumer Protection Laws.

TO SEARCH PERCEPTION REGARDING CONSUMER RIGHTS

Hypothesis

H01: There is significant relationship between Consumer rights awareness and Online purchasing frequency.

H1: There is no significant relationship between Consumer rights awareness and Online purchasing frequency.

Test: Pearson Correlation

TABLE 2

Correlations		Online Purchasing Frequency	Awareness
Online Purchasing Frequency	Pearson Correlation	1	.003
	Sig. (2-tailed)		.982
	N	100	100
Awareness	Pearson Correlation	.003	1
	Sig. (2-tailed)	.982	
	N	100	100

From the above test, we conclude that there is no significant relationship between Consumer rights awareness and Online purchasing frequency. As the value of Pearson Correlation coefficient is near to zero. Also the T-value of two tailed test is 0.982, which is in the rejection region. So, we reject the null hypothesis.

TO FIND OUT THE CONSUMER RIGHTS AWARENESS IN ONLINE PURCHASING

Hypothesis

H03: Consumer Rights awareness have positive influence on Education.

H3: Consumer Rights awareness have negative influence on Education.

Test: Person correlation coefficient

TABLE 3

Correlations		Educational Qualification	Awareness
Educational Qualification	Pearson Correlation	1	-.108
	Sig. (2-tailed)		.283
	N	100	100
Awareness	Pearson Correlation	-.108	1
	Sig. (2-tailed)	.283	
	N	100	100

From the above table we conclude that the Person correlation coefficient is -0.108 between education and consumer rights awareness. So, education and consumer rights awareness have negative relationship. So, we reject null hypothesis.

CONCLUSION

Gen-y is the population that highly prefers online shopping. And the payment method they prefer is cash on delivery due to fear of security. The factors affecting to online purchasing are discounts and price. While the consumer rights are least affecting to online purchasing. There is no significant relationship between Consumer rights awareness and Online purchasing frequency. Education and consumer rights awareness have negative relationship. So, Education has no specific role in consumer rights awareness.

E-commerce is increasing day by day and the issues regarding online purchasing is also increasing day by day so, online purchaser should be aware about the available consumer rights. As there is no quick remedy available for violation of consumer rights. So, consumers avoid taking legal actions against violation of E-commerce laws. According to our study, online shopping is getting more popularity among Gen-Y. Students usually prefer to purchase mobile, mobile accessories, clothing and Pen drive and HDD. Also the results revealed there is no correlation between online purchasing and education. We found there is no significant relationship between Consumer rights awareness and Online purchasing frequency.

RECOMMENDATIONS

With the emergence of E-commerce has created opportunity for the firms to provide customers with faster and cheaper rates to purchase. As the online purchasing frequency are increasing with tremendous rate, Consumer rights awareness should be increased among online consumers regarding online purchase.

LIMITATIONS OF THE STUDY

1. This study is limited to Gen-Y only.
2. This study is limited to E-commerce with regards Consumer-to-Business
(Includes: commercial transactions between consumers and businessmen in online shopping and trading)

SCOPE OF THE FURTHER STUDY

1. A study can be done on consumer rights awareness for online shopping.
2. A study can be done on factors affecting to online shopping.

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13. The Consumer Protection Act, 1986

RELATIONSHIP BETWEEN OBJECT ORIENTED DESIGN CONSTRUCTS AND DESIGN DEFECTS**PAWAN KUMAR CHAURASIA****ASST. PROFESSOR****DEPARTMENT OF INFORMATION TECHNOLOGY
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LUCKNOW****ABSTRACT**

Software design starts from the initial development of software. During software development, various types of defects are made. Most of the design defects come from poor design, which affects the quality of the software. The basic principles of object-oriented design are inheritance, cohesion, coupling, abstraction and polymorphism are incorporated during software development. Defects may be occurred at the implementation level of the software, after the delivered of the software or during the maintenance of the software. If the defects are recognize and removed at the initial level of the software, then cost, time and effort are minimized of the software. During software development, OOD constructs are exploited and various types of design defects are taken place. In this paper, author implement the relationship between object oriented design constructs and design defects during software development at the initial phase of the software design.

KEYWORDS

OOD, rigidity, fragility, immobility, complexity.

INTRODUCTION

As the use of software industry grows in today's scenario, software quality is one of the important factors in software development. The defects must be recognized and corrected as early as possible, rather than delivery of the software. From various surveys, it is found that 90% of the total cost of a typical software project is consumed after delivery of the software [1]. High-quality software is typical to develop and maintain in large software projects, since they are costly to maintain because of bad design practices are the major cause of design defects, which make it difficult to add, debug and evolve all the features. Many studies reported that software maintenance is very costly, if modification made on a system after the delivery of the software. When adding new functionalities, bugs correction code modification, which improves the quality of the software as well as the cost optimization [2]. If these defects are identified at initial stage of the software, then the post maintenance cost and time consuming is minimized. Software quality is assessed and improved during reviews and testing. The primary objective is to detect defects and correct as early in the software process, before they are passed to another software engineering process and released to the customer. There has been a lot of researcher focus on bad designs also known as defects, anti-patterns [3], bad smells [2] or anomalies. These bad practices sometimes pay a huge loss generally, they are avoided by the development team at design level and removed at the code. Several approaches were proposed for maintenance and improve the quality of the software.

This paper is organized as follows: I section introduced about the paper. In section II, defines the defects and its types. In section III, literature work done by the researcher for OOD and design defects. In section IV, OOD design defects are identified and section V, defines the OOD constructs. In section VI, implement the relationship between OOD constructs and design defects. Last section is the conclusion of the paper.

DEFECTS

The responsibility of software developer is to deliver the quality products to the customer within schedule and cost. Software products meet-out all the requirement of the customer. These functions are the most important to the users to run the software without any defects. There are many factors of software quality, the first quality concerns with the defects. Defects may occur in all the process of life cycle of software development. The word *defect* sometimes refers to error, fault and failure. Defect can be referred either as fault (cause) or a failure (effect). Design defects are also called anomalies that refer to the design situation that affect the development of the models. Design defects are occurred early in the software process that increased the cost of later stages of software process. Some researchers have proposed processes and techniques to detect design defects. Beck [8], defines 22 sets of common defects. Design defects are common and repeating design defects that comes from design defects or code defects, which are defined as follows:

1. Design Defects

Design defects are also known as anomalies that directly affect the development models. Design defects and design patterns are same used in various organizations. Design defects used as wrong solution to repeat problems in case of object oriented design. Ghannem et. al. [4], focus on the detection of defects, which are appeared at the model level, especially in class diagram. Defect comes from various sources of objects either it comes from class, methods or attributes.

2. Code Defects

It is occurred at the code level. Fowler describes code smells as "certain structures in code that suggest the possibility of refactoring". It is occurred in the form of duplicate code, large class, long method, long parameter list and data class. It is also linked with the inner working of the class and design defects reflect the relationship between inner class and intra class.

LITERATURE REVIEW

Object oriented concept is the most common concept in today environment [6]. Object oriented system deals as the primary object in computation process. Object oriented principles, direct the designer what to hold up and what to prevent. A good object oriented design needs operations and functions that must be used in the development cycle. Defects are poor design selection, that decrease the quality of the object oriented design. It is similar to design patterns, which are used and studied in the industry and academic. Design patterns are proposed as "good" solutions N. Moha found that design defects are based not only on metrics but also on semantical and structural properties [7]. Brown et. al. [5]. In 2011, G. Suryanarayan works on principle-based classification of structural based on structural design smells [8]. There is a lot of study on characterization and detection of object oriented design (OOD) defects [9]. Various empirical studies have been conducted to observe the impact of various OOD defects on code. These studies prove that OOD defects have a negative impact on maintainability [10], understandability [11] and fault proneness [12]. There is not any research work on relation between design constructs and design defects. Spoiled pattern can be used according two viewpoints; architectural and knowledge viewpoint [15]. A single flaw in design will manifest in next phase of software life cycle and it will become harder to diagnose the vulnerability as the software life cycle proceeds [16].

IDENTIFYING OBJECT ORIENTED DESIGN DEFECTS

Design defects are certain structures in the design that indicate the violation of fundamental design principles. Design defects have many root, some of them come from the limitation of the programming and other come from the work pressure or inexperience of the programmers. In paper [8], defects are catalog into four categories (Abstraction, Encapsulation, Modularization and hierarchy). There are various types of mistakes execute by the developers at the time of software design. The objective of these principles is to identify and highlight the most important defects keep in mind when design and developing defect free software. There are four basics symptoms that are rotting our designs. They are not relevant, but they are related to each other [13][14]. These design defects are defined below.

- **Rigidity (Design is hard to change):** It is the tendency for software to be hard to change in any ways. Every change causes a fall down of subsequent changes in dependent modules. Effect of changes is reflected in descendent module [13][14].
- **Fragility (Design is easy to break):** It is related to rigidity. It is the trend of software to be changed in various places. Sometimes breakages occurred in areas that have no relationship from various breakage points. Every time the developers are fear for the software failure from unexpected manner. Fragility is the opposite of robustness. Example: suppose we touch a drinking glass and that glass breaks, it is fragile. Even if we put our fingers only on a small part of the glass, the whole glass collapsed. A system that is fragile behaves similar. After a simple change has been made to the system, by adding new functionality or fixing a problem, the whole system breaks. Often, breakages occur in many places that have no conceptual relationship to the changed part [14].
- **Immobility (Design is hard to reuse):** It is the quality of the software; to be reuse from other projects or same project. Generally, it occurs that one engineer will discover that he needs a module similar to other module written by the other engineer. But he feels that there is too much change required to separate the desirable parts that he depends upon. It is hard to reuse, so the software is rewritten [13].
- **Viscosity (Hard to do the right thing):** It comes in two forms; design and environment. Developers usually find more than one mode of changes. Some of them continue with the design, some of them are not. When the design continued with the methods are harder to deploy. In case of environment development environment is slow and incompetent. Suppose a program compile time is too long, and developers invited to make changes to minimize the compile time, those changes which are optimal from design. If it is minimized from code by making changes in few files, then it is tempted to make changes, irrespective of design is preserved [13].
- **Needless Complexity (Overdesign):** It contains those elements, which are not presently useful. It happens when developers predict to change to the requirements and put facilities in the software to deal with those changes in future [13]. Good software design is lightweight, flexible, easy to read and understand and above all easy to change in future. Building infrastructure where not needed leads to more time spent in the development process and therefore higher costs. Additionally, the time to maintain the complicated parts of the system is increased, because it is hard to understand. Another term for Needless Complexity is Building for the future [14].
- **Needless repetition (Copy/Paste):** Sometimes copy and paste is useful, but they can be disastrous in code editing operations. Generally, it is happen that software systems are built in hundreds and thousands of repeated code elements [14]. When the same code appears again and again, in slightly different forms, the developers are missing an abstraction. Identify all the repetition and eliminating it with substitute or abstraction method, it is a long process towards make the system easier to understand and maintain [14].
- **Opacity (Disorganized expression):** These are the most common bad design principles. Some of them are applicable at design phase and some of them at coding level or both. There are various researcher addressed either one or two design principles of bad design to minimize the design defects. To minimize design defects at design level; identify subset and source of the above bad design defects [13].

From the above design principles author identified four design principles to address in the work. R. C Martin [13], said that rigidity, fragility, immobility and viscosity are the four symptoms are the cause of poor design. Generally software are developed either start from commence stage or prototype software is used by making some changes and reused it. When prototype software is used, some changes are required on various stages of software development. So, it is difficult to identify the effect of changes on software. In general, cases design defects are introduced at design time, upgrade or during maintenance of the software. During this time, most of the defects are occurred from rigidity, fragility, immobility and needless complexity of the design.

OBJECT ORIENTED DESIGN CONSTRUCTS

It facilitates to the designer to reusability, flexibility, maintainability, consistency etc. Object oriented plays an important role for providing various types of design factors to implement OOD principle concept. There are various object oriented design constructs, which are used:

• INHERITANCE

It is the mechanism that allows new class to be created by extending and refining its capabilities. The existing classes are called the base/parent/super classes and the new classes are called the derived/child/subclasses. Therefore, the new classes inherit the attributes and methods of the derived class provided that the base class allows. Also, the subclass may add its own attributes and methods and modify methods of any super-class methods. There are various types of inheritance, which are generally used:

- **Single Inheritance:** A sub class is derived from a single base class. In figure 1 Student class used as base class and the attributes and methods are inherited in Student_Scholarship defined in derived class.
- **Multiple Inheritance:** A sub class derived from more than one base class. In figure 2, Wheel and Rubber are two base class. Tyre works as a derived class, which inherit feature from two different base class, is called as multiple inheritance.
- **Multilevel Inheritance:** A sub class is derived from a base class and which is extended to derived from another base class and so on. In figure 3, animal class behaves as a super class and mammal sub class derived from super class. Mammal sub class behaves as a super class for human class.
- **Hierarchical inheritance:** It is a form of tree structure in which a base class has number of derived class, each of which may have consequent number of subclasses, with multiple levels. In figure 4, Vehicle super class has a number of sub classes and each of which has subsequent classes with number of levels to form a tree structure.

FIGURE 1: SINGLE INHERITANCE

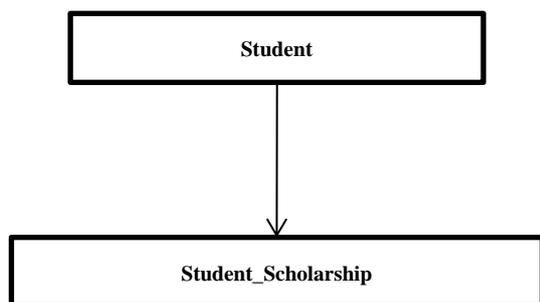


FIGURE 2: MULTIPLE INHERITANCE

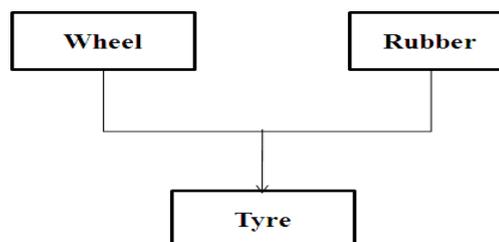


FIGURE 3: MULTI-LEVEL INHERITANCE

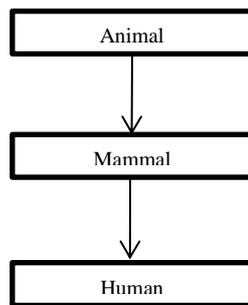
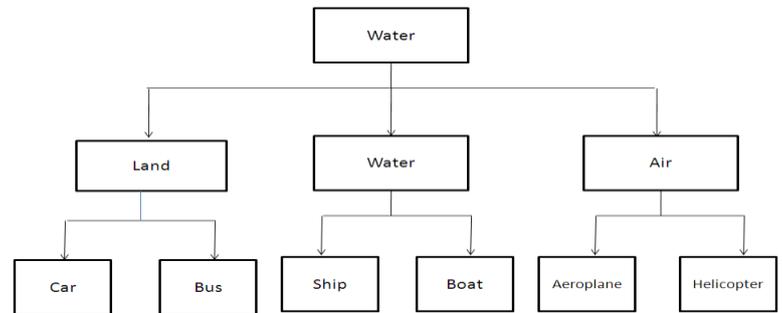


FIGURE 4: HIERARCHICAL INHERITANCE



• COHESION AND COUPLING

It refers to the internal stability of the design. It focused on data that is encapsulated within an object and how methods interact with data to provide limited behavior. A class is cohesive only when its methods are highly used. Highly cohesive class are typical to split. It helps to identify the poor design of the class. Cohesion is a measure of the functional strength of a module whereas the coupling between two modules is a measure of the degree of interdependence or interaction between the two modules. Suppose a module having high cohesion and low coupling is said to be functionally independent of other modules. A cohesive module performs a single task or function.

• POLYMORPHISM

It comes from Greek word; it has the ability to take multiple forms. In view of object-oriented concept, it uses operations in different ways, depending upon the instance they are operating upon. It also allows objects with different internal structures to form a common interface. It is generally effective during implementation of inheritance. Example: Two classes circle and square have a method genArea(), In both classes methods are same for internal implementation, but the calculation procedure is different of both classes.

• ENCAPSULATION

It is the process of binding both attributes and methods together within a class. Through this process, the internal details of a class are hidden for end user. The class has methods that provide services to user interface by which the services provided by the class may be used.

From the above object oriented design principles, researcher identified the three most relevant object oriented design concepts used for minimization of object oriented design defects. Inheritance cohesion and coupling are the basic OOD principles, which are used in, object oriented design.

RELATIONSHIP BETWEEN OOD CONSTRUCTS AND DESIGN DEFECTS

Design defects can be minimized by minimizing the no of defects (flow of defect in diagram). Research is focused on how design defects can be minimized using the object oriented constructs while using the identified design defects. In [20], how OO design mechanism such as inheritance, polymorphism, information hiding and coupling can influence quality characteristics like reliability or maintainability. The relationship between design constructs and design defects are shown in figure 5, which are described as follows:

OOD CONSTRUCT AND 'RIGIDITY'

OOD constructs are required to change in class/module and class/module consist of methods and attributes. During development, if there are any changes required, it may come from attributes and methods, which are known as defect attributes and defect methods. As the software, design suggests that software can be modified at any level without changes its behavior.

- If a design supports inheritance then all the methods and attributes are defined in parent class automatically available in its subclasses, as well as these sub classes generate hierarchy of subclasses. If there is any changes required in methods and attributes, these changes are required in descendent classes also. More influence of attributes and methods in depth make them more design defects. Therefore, with the increase of inheritance; 'rigidity' also increases [18].
- In case of cohesion, high cohesion suggested to improve the quality of an object-oriented design. High cohesion forms the sequence of modules where the output of one module behaves as input to other modules. Therefore, the input depends on the output of the other modules through attributes and methods. Hence, cohesion increases 'rigidity' of module decreases.
- In case of coupling, the degree of interdependence between modules increases and the parameters are exchanges between modules reflect the degree of modules. The defects of the design are reflected during interchange of the data between modules. Classes and subclasses have several limitations. Tight coupling introduces rigidity and makes further enhancements harder to implement which is undesirable in a software system of any size. If changes are made in the parent, it can affect the functionality of the children [17]. Therefore, degree of coupling increase, change the 'rigidity' of the design.

OOD CONSTRUCT AND 'FRAGILITY'

Fragility is the tendency of the software to break in many places with single change of modules. If there is, any changes occurred in one module and there is not any relationship with other modules, which change the behavior of the module. Hence, fragility bad design changes the behavior of the Object Oriented Design (OOD). Suppose a car system in changing the radio system affects the windows.

- In inheritance, methods and attributes are inherited in descendent classes and it is automatically accessible to the child class from the parent class due to its transitive nature. This accessibility is increased level by level and if any changes required in methods and attributes which affect the unknown class. Therefore, inheritance increases fragility also increases with the depth of the level [18].
- In case of cohesion, cohesion among defect attributes and methods cannot affect the connectionless classes. If there is any changes in one class, that can be changed in attributes and methods of other class which are not cohesively related is known as fragile defects in design. Hence, with increase of cohesion fragility is decreases.
- Coupling is directly related to sharing among software modules. More coupling increases the module more fragile. Fragile system is difficult to modify and cannot deal with a changing environment.

OOD CONSTRUCT AND 'IMMOBILITY'

It is the reverse of mobility. In an immobile software project, there are various parts of the system, which cannot be moved from one part to another part, because there are too many dependencies. Immobile systems are very bad for reuse purposes. Everything is coupled tightly together and no small updates can be applied to the system. There are only big modules with lots of dependencies.

- In case of inheritance, level of inheritance increases it is difficult to change in one method and attributes in base class. If there is any change in base class, then derived class and its descendent class are also effective. It is difficult to use the module from parent class to child class, which increased the immobility design [18].
- Strong class cohesion improved the quality of an OOD, when cohesion improves design defects are improved. In case of immobility, it is difficult to reuse the function. Therefore, cohesion increase immobility also decreased.

- It is found from various researchers that coupling enforces complexities in the code as well as in the design of the software. When coupling increase the complexity of the code and design also increase. When design complexity increases it is difficult to reuse the design and the number of interdependence modules are reduced. Hence, the immobility of the software decreases.

FIGURE 5: RELATIONSHIP BETWEEN DESIGN DEFECTS AND CONSTRUCTS

Design Constructs \ Design Defects	INHERITANCE	COHESION	COUPLING
Rigidity	↑	↓	↑
Fragility	↑	↓	↑
Immobility	↑	↓	↑
Needless Complexity	↑	↓	↑

OOD CONSTRUCT AND ‘NEEDLESS COMPLEXITY’

Unnecessary design increased the complexity of the software. Good software design is easy to reuse, easy to move, modify and usage of the design. In this section, analyzes the object oriented design constructs with respect to the principle of bad design defects of ‘Needless Complexity’.

- In case of inheritance, unwanted level of inheritance increased the complexity of the design. Some future plan design increased the complexity of the design. So, when level of inheritance increased, complexity of design also increased [18].
- From various studies, it is found that high cohesion in classes reduces the complexity of the design. Hence, cohesion assist to building object oriented design simple and easy to use.
- Coupling is directly related to sharing data through software entities. More sharing of entities increase the complexity of the design. Hence, coupling between classes increase the complexity of the design.

CONCLUSION

As the software industry grows, size and complexity of the software also grows with time. Today most of the software is based on object-oriented concept. At the time of software development, various types of diagrams are implemented by using Class, Methods and Attributes. If these items are not properly deployed then the defects are occurred in the software. These defects may be occurred at the time of development, after deployment or maintenance of the software. During software design, OOD constructs are deployed during development of the software like (Inheritance, Cohesion, Coupling etc.). With the help of object oriented concept and various researcher views in figure 5 identified the relationship between design constructs and design defects and found that when inheritance increases all design defect are increased. But when cohesion increases, all the design defects are decreased. While in case of coupling, coupling increases all the design defects are also increased. Therefore, when inheritance and coupling are increased, design defects are increased. Therefore, a methodology is required to minimize the design defects of the software.

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IMPORTANCE OF STUDENT SUPPORT SYSTEM IN PROFESSIONAL INSTITUTES: TRENDS AND CHALLENGES**ANURAG DILRAJ****SR. LECTURER****INSTITUTE OF BUSINESS MANAGEMENT & RESEARCH****IPS ACADEMY****INDORE****DR. ASHOK JHAWAR****PROFESSOR****INSTITUTE OF BUSINESS MANAGEMENT & RESEARCH****IPS ACADEMY****INDORE****ABSTRACT**

Modern professional education requires a system, which can provide a wholesome education to the students. Professional institutes need to develop Student support system and Services which consists of a range of facilities and applications which support our students for studies and career related activities. Education is now more focused on providing online and offline facilities to the students. The administrators and faculties need to facilitate the learning and teaching process through these systems. The study has been conducted to evaluate various student support activities provided by the professional institutes.

KEYWORDS

student supportive system, professional education, higher education, professional institutes.

INTRODUCTION

The professional education in India is witnessing a paradigm shift in present educational system. Various institutes are coming up which are providing latest infrastructure and student support system. The actual system begins from the time of admission of the students. Students need to be counseled well before joining the course so that they know the requirement of the course and associated problem and benefits. A properly framed system helps both the institute and the student to plan the studies and career.

There are two categories of system usually adopted by the institutes:

1. Offline systems
2. Online systems

Offline systems: The offline systems consist of the infrastructure, books, hostel, computer, medical aid, admission cell, counseling cell etc. These systems are usually the traditional systems, which are a part of almost all the professional institutes. The offline system requires human resource and professional, which need to be appointed for each facilities separately. The cost of maintaining and keeping the system is high.

Online systems: The online system consists of the use of ICT (Information and communication technologies) in institutes. These are the systems, which are accessible through a network using a computer or a mobile application. Present day institutes are using such system for better management and cost efficiency.

REVIEW OF LITERATURE

- A study done by Alan Tait (2010) examines the various factors that need to be taken into account in the planning of student support in open and distance learning systems. The factors discussed arise from the characteristics of the students, the demands of academic programmes and courses, the geographical environment, the technological infrastructure, the scale of the programme, and the requirements of management. These factors interact in complex ways, such that while none can be ignored, none can be given overall priority. The author provides a comprehensive analysis of the many factors that need to be taken into account.
- Ved Prakash (2007) studied the challenges and growth of the Indian higher education system. The challenge of global competitiveness has been added to other demanding tasks such as access, equity, relevance, quality, privatization and internationalization in the face of a resource crunch. This article gives an overview of trends in the expansion of higher education and examines variations in participation across states, gender and social groups. The author discusses the trends in the financing of higher education and the required resources to meet the target of allocating 6 per cent of the GDP to education.
- Jandhyala B. G. Tilak and N. V. Varghese (1991) analyzed the present pattern of funding higher education in India and to discuss the desirability and feasibility of various alternative methods of funding the same. Higher education in India is basically a state funded sector. But as higher education benefits not only society at large, but also individuals specifically, and as it attracts relatively more privileged sections of the society, there is a rationale for shifting the financial burden to the individual domain from the social domain.
- N. Senthilkumar, A. Arulraj (2006) discussed a model to prove that the placement is the mediated factor for various dimensions of quality education. The model helps to identify three service areas to be focused in the higher educational institutions for improving the quality of service. These dimensions are necessary for improving the quality of higher education in India. The educationist says that, education is a change of behavior of students. The higher educational institutions should come forward to adapt the sub-dimensions of quality variables to enhance the outcome of education.

OBJECTIVES OF THE STUDY

To compare the student services provided by three categories of institutes regarding the expected and perceived quality of teaching-learning process, library, placement and infrastructure facilities

METHODOLOGY

For this study, a Qualitative percentage analysis method using a tabular comparison was considered. The student's views and opinion was studied by a descriptive research. The respondents were chosen from three categories of institutes' viz. Govt., private, university teaching departments.

(I) RESEARCH TOOL

A self-developed questionnaire was used as the research tool for undertaking the present study. The questionnaire consists of 15 questions, which were choice based. The questions were related to the Teaching-learning process, library facilities, placements and infrastructure facilities.

(II) SAMPLE DESIGN

The sample consists of 120 students of three categories of institutes. A stratum of 40 students was considered from each institute. The three categories were Govt., private and university teaching departments.

DATA ANALYSIS

TABLE 1

S.No	Particulars	Govt. College		Private college		University Teaching Department	
		YES (%)	NO (%)	YES (%)	NO (%)	YES (%)	NO (%)
Teaching-learning process							
1	Satisfied with the syllabus content	66	44	47	53	69	31
2	Latest Teaching aids	27	73	89	11	67	33
3	Online Assignments	18	82	66	34	12	88
4	Online query solution	0	100	22	78	18	82
5	Group Activities	55	45	81	19	76	24
6	Practical Approach in learning	57	43	69	31	64	36
Library facilities							
7	Availability of course related books	72	28	81	19	77	23
8	Availability of Journals, Newspapers, Magazine	54	46	89	11	64	36
9	Online Subscription to databases & e-library	12	88	45	55	56	64
10	Access to library after college hours	10	90	0	100	22	38
Placements							
11	Is there a placement season	0	100	42	58	26	74
12	Specialization wise Guidance is available	12	88	86	14	79	21
13	Communication skill classes	22	78	63	37	57	63
14	Availability of Training and guidance cell	100	0	100	0	100	0
15	More than one placement opportunity	11	89	79	21	19	81
16	Satisfaction of Overall Placement process	12	88	71	29	58	42
Infrastructure							
17	Spacious classrooms	66	34	88	12	81	19
18	LCD projectors	14	86	84	16	67	33
19	Cafeteria	0	100	82	18	56	44
20	Seminar Hall	81	19	98	2	100	0
21	Playground	79	21	84	16	87	13
22	Medical Facilities	2	98	64	36	21	79
23	Sports Complex/Facilities	84	16	89	11	24	76

INTERPRETATION

1. TEACHING LEARNING PROCESS

- It is observed that most of the students in Govt. institutes (66%) and UTD (69%) are satisfied with the syllabus while in private institutes the satisfaction is only 47%.
- Latest teaching aids are being used in Private institutes (89%) and UTD (67%)
- Online assignments were mostly given in private institutes (66%)
- Online query solution was not being used in any of the categories. Especially in Govt. institutes it was missing
- Group Activities like group assignments, projects, discussions case studies were mostly given in private institutes (81%) and UTDs (76%)
- The Practical Approach in learning was found mostly in private college (69%) and in govt. institutes (64%)

2. LIBRARY FACILITIES

- Course related books are available in all categories of institute's i.e. Govt. (72%), private institutes (81%) and UTDs (77%)
- Availability of Journals, Newspapers, and Magazine was mostly there in private institutes and UTD. Through the govt. colleges also have these but in lesser quantities.
- Online Subscription to databases & e-library was mostly found in UTDs (56%)
- Access to library after college hours was available with very few colleges

3. PLACEMENTS

- Most of the students feel that there is no proper placement season in the institutes.
- Specialization wise Guidance is available in private(86%) and govt.(79%) institutes
- Most of the students in private institutes (63%) and UTD (57%) say that there are proper communication skill classes. But in govt. institutes these classes are less.
- Availability of Training and guidance cell is there in all types of institutes
- Students in private institutes (79%) have more than one placement opportunity
- Overall satisfaction of Placement process was found in private colleges (71%) and UTDs (58%)

4. INFRASTRUCTURE

- Most institution have spacious classrooms
- LCD projectors are mostly used in Private institutes and UTDs.
- Medical facilities are present in private institutes (64%)
- Sports and playground are provided by most institutes.

SUGGESTIONS

- Professional education requires a proper setup of teaching and learning activities which must be taken care of during session planning
- Student support system must be created keeping in mind the cost and the curriculum which the students undertake
- Government colleges must utilize the funds to create a better career development program
- Placements are related to the skill development. Institutes must conduct skill development programs to enhance the skills of the students
- Online system in some format should be used by all the institutes so that it provides a strong learning base for the students
- Group activities and assignments must be pre planned and the details must be rated or marked using some point system or a credit based system

CONCLUSION

The benefits of a good student support system are both for the student and organizations. Professional institutes are not just imparting a degree but they are also defining career of a student. Even though the institutes have a good infrastructure, they are not focusing on a proper student management. The need of the hour is a system, which is cost-effective and also provides benefits to all. The students must also be made aware of the structure, course curriculum, career opportunities and dimensions related to their education.

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LIQUIDITY STRUCTURE OF WORKING CAPITAL – TESTING OF THE HYPOTHESIS DEVELOPED BY VAN HORNE

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ABSTRACT

The importance of working capital in any industrial concern need not be over emphasised. Even in a well-established business with a long history of successful operation, careful attention to the management of working capital can result in greater profitability. Investments due to non-effective utilisation yield low returns. Working capital of a firm is also influenced by its size and activities and its attitudes towards risk and return. The effective management of working capital is the primary means of achieving the firms' goal of adequate liquidity. It is the net working capital that helps measure the degree of protection against problems that might cause a shortage of funds. Management of working capital requires number of actions regarding proper liquidity structure of the firm. If a firm employs its working capital in an efficient way, liquidity or solvency is guaranteed. The present paper aims to judge the liquidity structure of working capital by choosing a popular and established company i.e. Tata Steel Ltd. and especially to test the hypothesis developed by Van Horne in this regard. The study shows that both the working capital and liquidity structure of the company, has no significant impact on owners' wealth and does not properly satisfy the proposition of Van Horne.

KEYWORDS

liquidity, profitability, return, risk, working capital.

INTRODUCTION

Effective management of working capital is the primary means of achieving the firms' goal of sufficient liquidity. It is after all the current assets that will be available to meet the current obligations of the firm. Net working capital helps measure the degree of protection against problems that might cause a shortage of funds. Almost every activity of business or everything happening in the business is related to working capital decisions. The reason for working capital not being able to optimise itself is that there are various functional areas influencing it and these primarily take care of their own needs (Firth, Michael, 1976). In fact, management of working capital requires number of actions regarding proper liquidity structure of the firm. Determining the appropriate liquidity structure of assets and liabilities, involves fundamental decisions with respect to the firms' liquidity and the maturity composition of its debts. These decisions are, on the other hand, induced by a trade-off between profitability and risk.

For assets and liabilities of a specific firm or company, lower the proportion of liquid assets to total assets and greater the proportion of short-term debts to total debts – greater the firms' return on investment. This profitability assumption will result in low level or even negative working capital (Van Horne, James, C., 1974). Liquidity is closely connected with management of working capital, i.e. decisions concerning short-term assets and liabilities, while the profitability goal reflects both short-term and long-term decision making (Smith, Keith V., 1975).

The hypothesis drawn from the assumption of Van Horne reads as "Higher the working capital, lower the profitability and vice versa" (Van Horne, James C., 1969). This hypothesis of Van Horne can be tested in either absolute method or relative method. The relative method is more useful for the reason that overall rates of variations in working capital as well as profitability are compared in this case. The present paper is concerned with the examination of liquidity structure of working capital and verification of the hypothesis developed by Van Horne in the case of a giant steel company in India i.e. Tata Steel Ltd.

REVIEW OF LITERATURE

The study of liquidity, an important aspect of working capital behaviour occupies an important place in financial management. Useful theoretical developments have not been uniform across all areas of financial decision-making. Major theoretical developments have been made on long-term financial decisions as compared to short-term. Failure of many enterprises or their unrestricted growth due to the inability of financial managers to plan and control properly the working capital has drawn the attention of the author to the need for developing the appropriate working capital theories. A large number of studies relating to the area of liquidity structure of working capital have been carried out in different times in India and abroad by different authors in different ways. A review or test of these studies is important with a view to developing a study that can be applied in the context of the selected Indian company. A study of liquidity, an important aspect of working capital is of major importance to both the internal and the external analysts. A few remarkable tested studies that have been carried out in the area of liquidity structure of working capital are presented briefly here as under.

Walker, Ernest W. (1964): Regarding working capital and profitability relationship, Walker thinks "If working capital is varied relative to sales, the amount of risk that a firm assumes is also varied and the opportunity of gain or loss is increased". The proposition of Walker, Ernest W. implies a risk-return trade off working capital management. It shows a kind of negative relationship that exists between the level of working capital and the rate of return (Walker, Ernest W., 1964).

Welter Study (1970) is concerned more with the profitability goal of working capital management since it was devoted to the calculation of savings possible through reduction of working capital. The study highlighted the fact that the firm could reduce average delay so as to generate savings possible through the reduction of working capital if it could manage the distribution of average delays favourably. In this connection, to what extent the savings possible through reduction of working capital can affect the liquidity position may perhaps contribute an area of further investigation (Welter, Paul, 1970).

Gupta and Ronald (1972) examined the differences in the average financial ratios between industries. The findings of their study concluded that there were differences in the average activity, liquidity and profitability ratios among industry groups (Gupta and Ronald, 1972).

The study of Chakraborty (1973) opined that working capital as a segment of capital employed enables one to see its management in a broader perspective. Since return on the capital employed is an aggregate measure of the overall efficiency in conducting a business, it pointed out that large or small working capital would affect the capital turnover ratio and also the overall return on capital employed (Chakraborty, 1973).

Smith conducted two studies. Smith in his first study (1974) stated dual goals of profitability and liquidity and suggested that the job of financial managers is to achieve a trade off between the two (Smith, Keith V., 1974). The second study (1974) of Smith relates to profitability versus liquidity tradeoffs in working capital management. The study suggested that parallel monthly forecasts of liquidity and profitability can be useful in evaluating tradeoffs between the two goals. Such forecasts can also be useful in estimating the impact of certain working capital policies on these goals and reflecting the uncertainty of the future (Smith, Keith V., 1974).

Chu, et al. (1991) examined the differences of financial ratio groups between the hospital sectors and industrial firm sectors. They observed significant differences in the financial ratio groups between the two sectors (Chu, et al., 1991).

Soenen (1993) studied the relationship between net trade cycle and return on investment of U.S. firms. The study observed a negative relationship between the length of net trade cycle and return on assets. Further study revealed that the negative relationship was different across industries depending on the type of industries (Soenen, L.A., 1993).

Jose, et al. (1996) studied the relationship between aggressive working capital and profitability of U.S. firms. The study showed a significant negative relationship between the cash conversion cycle i.e. working capital management and profitability (Jose, et al., 1996).

Some of the similar studies were carried out by Ghosh & Maji (2004) (Ghosh & Maji, 2004), and Lazaridis & Tryfonidis (2006) (Lazaridis & Tryfonidis, 2006).

Liquidity being an important aspect of working capital has gained major importance to all because of its close relationship with day-to-day operations of a business (Bhunia, A., 2010).

AN INTRODUCTION TO TATA STEEL LTD.

Tata Steel, the flagship company of the Tata Group, established in 1907 is the first integrated steel plant in Asia and is at present the world’s second most geographically diversified steel producer and a Fortune 500 company. Tata Steel is the world’s 6th largest steel company with an existing annual crude steel production capacity of 30 Million Tons Per Annum (MTPA). Today Tata steel Ltd. is present in over 50 developed European and fast growing Asian markets with manufacturing units in 26 countries. Tata steel has created a manufacturing and marketing network in Europe, South East Asia and the pacific countries. Tata Steel Thailand is the largest producer of long steel products in Thailand. The iron ore mines and collieries in India give the company a distinct advantage in raw material sourcing. This company has signed an agreement with Steel Authority of India Limited to establish a 50:50 joint venture company for coal mining in India. Tata steel India is the first integrated steel company in the world, outside Japan, to be awarded the Deming Application Prize 2008 for excellence in Total Quality Management. Besides this, Tata Steel Ltd. receives different prestigious awards several times in India and abroad. In view of the above it may be of great interest to the financial statement analysts to know how the flagship company has been managing one of the important aspects of financial management- working capital.

OBJECTIVE OF THE STUDY

The basic objective of the study is to examine the liquidity structure of working capital and especially to test the hypothesis of Van Horne, “Higher the working capital, lower the profitability and vice versa” through Tata Steel Ltd., the selected company in India.

HYPOTHESIS DEVELOPMENT

In conformity with the objectives of the study, the following testable hypotheses have been formulated as under: -

1st Hypothesis

H₀ (1): - There exists no significant relationship between net working capital and profitability.

H_A (1): - There exists significant relationship between net working capital and profitability.

2nd Hypothesis

H₀ (2): - There exists no significant relationship between liquidity and owners’ profitability.

H_A (2): - There exists significant relationship between liquidity and owners’ profitability.

For testing the hypotheses, 5% level of significance is considered in the study.

RESEARCH METHODOLOGY

The researcher, being an external analyst, has to depend basically on secondary data for the examination of the different aspects of liquidity structure of working capital of the selected company i.e. Tata Steel Ltd. Hence, the data and information required for the study have been collected mostly from the annual reports of the company for the period from 2011-12 to 2015-16. The latest year for which data are available is 2015-16. The analysis, therefore, confines itself to the period from 2011-12 to 2015-16. Though there was found apathy or indifference on the part of executives in supplying information, the researcher could overcome the same through moral persuasion and intensive pestering. It was made clear to them that the information so collected will be exclusively used for academic purpose and proper secrecy will be maintained. Editing, classification and tabulation of the financial data collected from the aforesaid source have been done as per the requirement of the study.

For the purpose of examining the liquidity structure of working capital and testing the hypothesis, statistical technique of simple correlation coefficient formula introduced by Karl Pearson has been applied.

By treating net working capital and profitability as two independent variables, correlation coefficient has been computed by applying Karl Pearson’s formula as follows: -

$$r = \frac{\sum xy}{\sqrt{\sum x^2} \times \sqrt{\sum y^2}} \tag{i}$$

Where, r = Correlation Coefficient; xy = Product of the deviations from respective means.

Simple correlation implies the interdependence of two sets of variables upon each other in such a way that changes in the one are in sympathy with changes in the other (Asthana, B.N., 1976).

Probable error tells us the limit within which the various values of the coefficient of correlations of the unit taken out of the same group or the entire group will vary. The required unit for the purpose of the present study has been selected on the basis of “Non-Probability Sampling” or “Purpose Sampling Method”. This being a subjective method of selecting sample and the unit selected in a sample is chosen purposely either to serve a particular object or because it is felt that it possesses all the characteristics of the parent population (Asthana, B.N., 1976). Coefficient of correlation less than the probable error indicates that ‘r’ is insignificant. Probable error of ‘r’ is computed in the following manner (Asthana, B.N., 1976): -

$$\text{Probable error of 'r'} = 0.6745 \times \frac{1-r^2}{\sqrt{n}} \tag{ii}$$

The significance of the correlation coefficient is tested by “t” – test which is as follows: -

$$t = \frac{r}{\sqrt{1-r^2}} \times \sqrt{n-2} \tag{iii}$$

Where, r = Correlation Coefficient; n-2 = Degrees of freedom.

TABLE 1: MEASURES OF WORKING CAPITAL, PROFITABILITY, LIQUIDITY AND OWNERS’ PROFITABILITY

Performance Indicators	Performance Drivers	Performance Measures
I) Working capital	Net Working Capital	Total Current Assets - Total Current Liabilities
II) Profitability	Return on Capital Employed (ROCE)	Earning Before Interest and Tax (EBIT) ÷ Capital Employed
III) Liquidity Ratio	Liquid Assets and Liquid Liabilities	Liquid Assets ÷ Liquid Liabilities
IV) Owners’ Profitability	Return on Equity (ROE)	Profit After Tax (PAT) ÷ Shareholders’ Equity

ANALYSIS AND MAJOR FINDINGS

Liquidity is an attribute signifying the capacity to meet current financial obligations as and when required. According to the *Oxford Advanced Learner’s Dictionary*, liquidity is “the state of owning things of value that can easily be exchanged for cash”. This meaning of liquidity focuses on the holding of current assets to be exchanged for cash to meet immediate financial obligations or dues. The liquidity structure of working capital of Tata Steel Ltd. has been studied with the help of statistical technique of Karl Pearson’s simple correlation coefficient and with a view to testing the hypothesis developed by Van Horne in this regard, the same formula or technique has been applied. The significance of correlation coefficient is tested by ‘t’ test at 5% level.

Correlation coefficients between working capital i.e. net working capital represented by excess of current assets over current liabilities and profitability represented by return on capital employed i.e. earning before interest and tax by capital employed has been shown in Table – 2.

TABLE 2: CORRELATION COEFFICIENT BETWEEN WORKING CAPITAL AND PROFITABILITY OF TATA STEEL LTD.

Year	X (Net Working Capital i.e. NWC Rs. in crore)	Y (Return on Capital Employed i.e. ROCE in %)
2012	-4018.92	14.77
2013	-4983.80	12.80
2014	-7317.18	13.37
2015	-4774.62	9.25
2016	-6666.50	9.03
	$\bar{X} = -5552.20$	$\bar{Y} = 11.84$

Correlation Coefficient, $r_1 = 0.28$; $t' = 0.50$; Probable Error = ± 0.62

Source: Computed by the Researcher based on Annual Reports and Accounts.

Table-2 evidences that in Tata Steel Ltd., working capital and profitability had been observed to be positively correlated indicating association of large value of one variable with large value of another variable and vice-versa. In other words, it can be said that working capital and profitability had not been always found to be varying in similar direction i.e. increase in working capital was not always corroborated with increase in profitability. Probable error was ± 0.62 . To study the significance of the computed value of such a correlation coefficient, the 't'-test has been applied here. The computed value of 't' i.e. 0.50 was less than the critical value of 't' (i.e. 3.18) at 5% level of significance. Hence, $H_0(1)$ i.e. the 1st null hypothesis may be accepted which signifies that there were no very significant relationship between the working capital and the profitability of the company under study. In a nutshell it can be inferred that variations in the working capital and profitability were not always in same directions or they are mildly related to each other having little impact of working capital on profitability.

LIQUIDITY AND PROFITABILITY

Liquidity may be defined as the ability to realise value in money. The most liquid assets have two dimensions viz. the time required to convert an asset into cash and degree of certainty associated with the conversion ratio or price, realised from the assets. In other words, liquidity is the firm's ability to meet its maturing obligations. Such type of liquidity of a firm or a company can be ascertained by assessing firm's ability to hold necessary cash at the time of meeting obligation. Liquidity of a firm or a company has been measured by liquidity ratio i.e. liquid assets by liquid liabilities.

This section is concerned with the relationship of firm's or company's liquidity and owners wealth i.e. profitability measured by profit after tax by shareholders' equity. Van Horne accepts that, the liquidity of individual firm or company would not be a factor of enhancing shareholders' wealth (Van Horne, J.C., 1974). If a company maintains high liquidity, it would not necessarily increase the profitability of the company.

With a view to establishing definite relationships between liquidity and profitability, Karl Pearson's correlation coefficient can be applied. Correlation coefficients explain relationship subsisting between two or more sets of variables. If there exists some relationship between two sets of variables, they are said to be correlated to each other. It implies the interdependence of the sets of variables upon each other in such a way that changes in the one are in sympathy with changes in the other. If the sets of variables constantly vary in same direction, it is a case of positive correlation and vice-versa (Asthana, B.N., 1976).

TABLE 3: CORRELATION COEFFICIENT BETWEEN LIQUIDITY AND OWNERS' PROFITABILITY OF TATA STEEL LTD.

Year	X (Liquidity Ratio or Quick Ratio i.e. LR or QR in %)	Y (Return on Equity i.e. ROE in %)
2012	69	12.72
2013	61	9.17
2014	32	10.48
2015	27	9.66
2016	32	6.95
	$\bar{X} = 44.20$	$\bar{Y} = 9.80$

Correlation Coefficient, $r_2 = 0.56$; $t' = 1.17$; Probable Error = ± 0.46

Source: Computed by the Researcher based on Annual Reports and Accounts.

Table-3 shows correlation coefficients of the selected company under study in between liquidity and profitability in terms of investment or owners' profitability. It is observed from the Table-3 that liquidity and profitability were positively correlated. Correlation coefficient between liquidity and profitability was 0.56. Probable error was ± 0.46 . To study the significance of the computed value of such a correlation coefficient, the 't'-test has further been applied here. The computed values of 't' i.e. 1.17 were less than the critical value of 't' (i.e. 3.18) at 5% level of significance. Hence, $H_0(2)$, the 2nd null hypothesis may be accepted which signifies that there were no significant relationship between the liquidity and profitability. They were mildly related to each other. Thus, the company under study did not entirely satisfy the propositions of Van Horne of "Higher the liquidity, lower the profitability".

CONCLUDING COMMENTS

The hypothesis of Van Horne "Higher the working capital, lower the profitability and vice versa" has been tested while judging liquidity structure of working capital of Tata Steel Ltd., the giant Indian Steel Company of Indian Steel Industry. Decision with regard to the company's liquidity and the maturing composition of its debts are influenced largely by a trade-off between profitability and risk. It has been observed by applying Karl Pearson's simple correlation coefficient technique followed by significance of correlation coefficient with the help of 't' test. It reveals that though liquidity and working capital were positively correlated but as computed 't' values were less than the critical value, they were not very significantly related. Thus, it can be concluded that both the working capital and liquidity structure of Tata Steel Ltd., the company under study had little positive impact with each other. In maximum cases, there were no significant relationships between liquidity and profitability and the impact with each other was found to be negligible. Thus, the study did not properly satisfy the proposition of Van Horne of "Higher the liquidity, lower the profitability".

LIMITATIONS OF THE STUDY

Limitations are always a part of any kind of research work, as the annual report is mainly based on secondary data; proper care must be taken in knowing the limitations of the required study.

1. The study of the selected company is shown just for the last five years, ending 2015-2016. Hence, any uneven trend before or beyond the said period will be the limitations of the study.
2. The major limitation of the present study is that the analysis is restricted to one particular unit.
3. This study is based on only monetary information, study of the non-monetary factors are ignored.
4. The inherent limitation is secondary data. The published data is not uniform and not properly disclosed by the banks. Hence, this may be taken as another limitation.
5. As per the requirement of the study, some data have been grouped and sub-grouped.
6. There is non-availability of sufficient literature and information from the company.

SCOPE FOR FURTHER RESEARCH

The research paper covers one giant steel company of Indian Steel Industry only. For further research more units of the same industry group and other units also of different industry groups may be taken for further research study. Moreover, conclusion drawn from the single unit cannot be generalised; hence, more units and more industry groups may be taken into consideration for drawing concluding comment and observation. Further research work is welcome to fulfil this gap.

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RURAL CONSUMER SATISFACTION TOWARDS ONLINE SHOPPING

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ABSTRACT

The facility of online purchasing has allowed customers to identify the different types of products available in the global market, the new inventions that have taken place and evaluate the product according to their prices just by a click of the mouse, without wasting precious time in walking towards the retail stores. Due to rapid globalization, all types of products are available on the net. The study carried out on online shopping sites throws light on the benefits and drawbacks in online shopping sites. This study helps to enhance the online shopping sites. Further studies can be carried out by applying many tools in multiple online shopping sites. The customers must be aware of all the techniques, strategies, methods adopted by the sellers to market their products in online shopping which will help them to get their products at the competitive rate with better quality.

KEYWORDS

online shopping, online shopping sites.

INTRODUCTION

 Online shopping brings many advantages to the customers. Customers can shop from any place and need not physically visit the shops/outlets for shopping purposes. Therefore, even if customer is staying in remote area, he/she can easily shop through internet. If a customer goes to any retail outlet or any other shop, the choice of products is normally very limited. However, here customers can visit any number of sites to reach a final choice. Hence, online shopping provides unlimited choices to the customers in nutshell. The customer can shop any day of the year on any time of the day. This also helps in customers' time and energy saving. More over due to unlimited choice and less excess time, customers can easily search for the desired things and can easily compare the products/item.

STATEMENT OF THE PROBLEM

In this digital era consumers prefer online shopping instead of traditional shopping. Many websites are available like amazon, flipkart, snapdeal, ebay, homeshop 18, shopclues. They are marketing their products through online. The main problem of a traditional shop is only limited choices of a product and having a limitation of shelf space, brick and mortar shops simply cannot afford to provide large varieties of products. But online shopping saves precious time.

When we shop online, it will take about a minute to log on to the internet, about a minute or two more to access the website of the store of our choice, it may take another ten to fifteen minutes to select the items we want to buy, and about five minutes more to fill in the information about our payment and get a print out of our receipt. Hence, an attempt is made in the present study to analyze the perception of rural consumer towards online shopping, problems faced in it and factors influencing buying behavior of online shopping.

OBJECTIVES OF THE STUDY

The study makes an attempt to seek solutions to the questions raised in the statement of problems. Accordingly, the following objectives have been framed:

1. To examine the attitude of rural consumer regarding online shopping.
2. To identify the reasons for preferring online shopping.
3. To ascertain the factors that influence the rural consumer's satisfaction in the purchase of goods through online.

METHODOLOGY

The data for this study have been collected from the primary source by using questionnaire. The respondents belonging to Angalakurichi village situated 11 kilometers away from Pollachi Municipality in Coimbatore District, TamilNadu have been selected.

SAMPLING PROCEDURES

Angalakurichi village is the study area. Convenient sampling method is adopted for the collection of data. A total of 200 respondents are taken as sample for this study. On the random basis, questionnaires were distributed to get the required data for this study. The study has taken a period of Three months.

COLLECTION OF DATA

The primary data required for the study has been collected through well-designed questionnaire. Questions relating to personal details, Usage of Online business, preferable portals used for online purchase, preferable products purchased through online, and Factors influencing the rural consumer's satisfaction of online shopping are included in the questionnaire.

ANALYSIS OF DATA

The collected information were reviewed, considered, and consolidated into a master table for the purpose of analysis. The data was further processed by doing statistical tools namely:

- Simple Percentage
- Chi-square Test
- Friedman Rank Test

SIGNIFICANCE OF THE STUDY

The results of the study will be immense use to the consumers who are doing online shopping. It creates awareness among the consumers about time saving, money saving, delivery charges, offers, variety of products, product verification before payments etc. It helps to identify the problems involved in online shopping and gives remedial measures to overcome it. The study also reveals the different websites available for online shopping.

LIMITATIONS OF THE STUDY

The data collected for the study is primary data, which is based on the questionnaire and hence the result would bear all the limitations of primary data. The data collected from the respondents are residing in and around Angalakurichi village situated 11 Km Faraway from Pollachi Municipality in Coimbatore District, TamilNadu. The findings are applicable only to the respondents of Angalakurichi village. Hence, care has to exercise while extending these results to other areas.

REVIEW OF LITERATURE

This chapter consists of review of related literature with influence of online shopping on consumers and also deals with business perspectives. Then it reviews the current issues in online shopping and factors affecting adaptation of online shopping. This is followed by highlighting the research gaps and contribution of the present study.

Abdul Muthalif. R (2001), has conducted a research on "Online Shopping Behavior among college students in Tamilnadu". The objective of the study to analyze the problem faced by the consumers in online shopping. With a good understanding of web shoppers purchase intention, consumer behavior through websites & barrier keep away for online shopping.

Burke R.R. (2002), trust is a key factor that determine the success of Business to Consumer (B2C) e-commerce transactions. Pervious researchers have identified several critical factors that influence trust in the context of online shopping. This research focuses on available security measures, which assure online shopper's safety & great sales promotion, and online deals, which stimulate customers to shop online.

Chayapa Katawaraks (2005), has conducted "Online Shopper Behavior; Influences of Online Shopping Decision". The objectives of this study is to provide an overview of online online shopping decision process by comparing the offline & online decision making. It is found that marketing communication process differs between offline and online consumer decision.

Santhi. R, Dr.Desti Kannaiah, (2015), have conducted the study on "Consumers Perception on Online Shopping" with the objectives to know the type of product purchased by consumers through online shopping. The data was collected from 100 respondents. The study revealed that Books, Cloths, Shoes, Electronics & others major items purchased through online shopping.

ANALYSIS**ATTITUDE OF RURAL CONSUMERS**

The attitude of rural consumers in online shopping namely how often buy in online, idea of buying product, frequency of buying, amount spent on online purchase, place of making an order, payment method, delivery period are given in the following paragraphs.

CLASSIFICATION OF CONSUMERS BASED ON THEIR FREQUENCY OF ONLINE SHOPPING

The consumers are classified based on their frequency of online shopping as always purchase; occasionally purchase; rarely purchase and the classification is shown in the table 1 given below.

TABLE 1: CLASSIFICATION OF CONSUMERS BASED ON THEIR FREQUENCY OF ONLINE SHOPPING

Frequency of Purchase	Numbers	Percentage
Always	53	26.5
Occasionally	87	43.5
Rarely	60	30.0
Total	200	100.0

Fifty-three (26.5%) consumers are always buying in online purchase; 87 (43.5%) consumers are occasionally buying in online purchase and the rest 60 (30.0%) consumers are rarely purchase in online. Thus, the majority of the consumers are occasionally purchase in online.

CLASSIFICATION OF CONSUMERS BASED ON THEIR MOSTLY PREFERABLE PRODUCTS SHOPPING IN ONLINE

The consumers are classified based on their mostly preferable products shopping in online as cloths, watches, kitchenware's and electronic items. The classification is shown in the table 2 given below.

TABLE 2: CLASSIFICATION OF CONSUMERS BASED ON THEIR MOSTLY PREFERABLE PRODUCTS

Product Preference	Numbers	Percentage
Cloths	91	45.5
Watches	50	25.0
Kitchen Wares	16	8.0
Electronic Items	43	21.5
Total	200	100.0

Ninety-one (45.5%) consumers are preferred in cloths; 50 (25.0%) consumers are preferred in watches; 16 (8.0%) consumers are preferred in kitchenware's and the rest 43 (21.5%) consumers are preferred in electronic items. Thus, the majority of the consumers are preferred in cloths.

CLASSIFICATION OF CONSUMERS BASED ON THEIR CHOICE OF PLACING ORDER ON ONLINE PURCHASE

The consumers are classified based on their place of making an order of online shopping as home, browsing centre, work place and other and the classification is shown in the table 3 given below.

TABLE 3: CLASSIFICATION OF CONSUMERS BASED ON THEIR CHOICE OF PLACING ORDER ON ONLINE PURCHASE

Place of Online Business	Numbers	Percentage
Home	117	58.5
Browsing Centre	34	17.0
Work Place	29	14.5
Others (Colleges, Bus stand etc.)	20	10.0
Total	200	100.0

One hundred and seventeen (58.5%) consumers make online shopping from home; 34 (17.0%) consumers make online shopping from browsing Centre; 29 (14.5%) consumers make online shopping from their work place and the rest 20 (10.0%) consumers make online shopping from others places(colleges, bus stands). Thus, the majority of the consumers make online shopping from home.

CLASSIFICATION OF CONSUMERS BASED ON THEIR MODE OF ONLINE PURCHASE

The consumers are classified based on their mode of using online purchase as mobile phones, computers, tap top and tablets and the classification is shown in the table 4 given below.

TABLE 4: CLASSIFICATION OF CONSUMERS BASED ON THEIR MODE OF ONLINE PURCHASE

Mode of Online Purchase	Numbers	Percentage
Mobile Phones	130	65.0
Computers	30	15.0
Laptop	18	9.0
Tablet	22	11.0
Total	200	100.0

One hundred and thirty (65.0%) consumers are using mobile phones; 30 (15.0%) consumers are using computers; 18 (9.0%) consumers are using laptops and the rest 22 (11.0%) consumers are using tablets. Thus, the majority of the consumers are using mobile phones for their online shopping.

CLASSIFICATION OF CONSUMERS BASED ON THEIR MODE OF ONLINE PAYMENT

The consumers are classified based on their method of online payment is used to online purchase as debit cards, credit cards, bank transfer and cash on delivery, the classification is shown in the table 5 given below.

TABLE 5: CLASSIFICATION OF CONSUMERS BASED ON THEIR MODE OF ONLINE PAYMENT

Mode of Online Payment	Numbers	Percentage
Debit Card	52	26.0
Credit Card	44	22.0
Bank Transfer	33	16.5
Cash on Delivery	71	35.5
Total	200	100.0

Fifty two (26.0%) consumers are using debit card for online purchase; 44 (22.0%) consumers are using credit card for online purchase; 33 (16.5%) consumers are using bank transfer for online purchase and the rest 71 (35.5%) consumers are using cash on delivery for online purchase. Thus, the majority of the consumers are using cash on delivery.

LEVEL OF SATISFACTION

The consumers are classified based on their satisfaction with regard to save time, online payment methods, save money, checking prices, shopping through internet, buy in leisure time, online advertisement, a better quality product, easy to compare many products, clear images of the product, product returns were easier, delivery system measures adopted by the rural areas consumers is disclosed in the following tables.

LEVEL OF SATISFACTION

- Average : 87.61
- Standard Deviation : 6.37
- Low : 81.24
- Medium : 81.25-93.37
- High : 93.38

AGE

To examine if age is associated with level of satisfaction on various measures adopted, the following hypothesis has been framed and tested.

H₀: Age is not associated with level of satisfaction.

TABLE 6: AGE AND LEVEL OF SATISFACTION

Age	Level of Satisfaction			Total
	Low	Moderate	High	
Up to 20	13 (31.7)	22 (53.7)	6 (14.6)	41 (100.0)
21 to 30	10 (08.7)	80 (69.6)	25 (21.7)	115 (100.0)
Above 30	11 (25.0)	24 (54.5)	9 (20.5)	44 (100.0)
Total	34	126	40	200
Df: 4	Chi-square : 14.161			P Value:. 007
				Significant

The percentage of consumers with high level of satisfaction is found high among consumers, 25 (21.7) who are 21 to 30 years. The percentage of consumers with low level of satisfaction is found high among consumers, 13 (31.7) who are up to the age of 20 years. As the calculated P value is less than 0.05, there is a significant association between age and level of satisfaction. Hence, the null hypothesis is rejected.

GENDER

To examine if gender is associated with the level of satisfaction on various measures adopted, the following hypothesis has been framed and tested.

H₀: Gender does not influence the level of satisfaction.

TABLE 7: GENDER AND LEVEL OF SATISFACTION

Gender	Level of Satisfaction			Total
	Low	Moderate	High	
Male	11 (10.0)	73 (66.4)	26 (23.6)	110 (100.0)
Female	23 (25.6)	53 (58.9)	14 (15.6)	90 (100.0)
Total	34	126	40	200
Df:2	Chi-square : 9.101			P Value:.011
				Significant

The percentage of consumers with high level of satisfaction is found in the 26 (23.6) male gender. The percentage of consumers with low level of satisfaction is found high among 23 (25.6) female consumers. As the calculated P value is less than 0.05, there is a significant association between male and female and level of satisfaction. Hence, the null hypothesis is rejected.

MARITAL STATUS

To examine if marital status is associated with the level of satisfaction on various measures adopted, the following hypothesis has been framed and tested.

H₀: Marital status does not influence the level of satisfaction on various measures adopted.

TABLE 8: MARITAL STATUS AND LEVEL OF SATISFACTION

Marital Status	Level of Satisfaction			Total
	Low	Moderate	High	
Married	19 (18.6)	62 (60.8)	21 (20.6)	102 (100.0)
Unmarried	15 (15.3)	64 (65.3)	19 (19.4)	98 (100.0)
Total	34	126	40	200
Df:2	Chi-square : 0.523			P Value:.770
				Not Significant

The percentage of consumers with high level of satisfaction is found in 21 (20.6) married consumers. The percentage of consumers with low level of satisfaction is found high among 19 (18.6) married consumers. As the calculated P value is greater than 0.05, there does not exist any significant association between married and unmarried consumers and level of satisfaction. Hence, the null hypothesis is accepted.

OCCUPATION STATUS

To examine if occupation status is associated with the level of satisfaction on various measures adopted, the following hypothesis has been framed and tested.

H₀: Occupation status does not influence the level of satisfaction on various measures adopted.

TABLE 9: OCCUPATION STATUS AND LEVEL OF SATISFACTION

Occupation	Level of Satisfaction			Total
	Low	Moderate	High	
Agriculturists	10 (23.8)	27 (64.3)	5 (11.9)	42 (100.0)
Employed	12 (19.0)	36 (57.1)	15 (23.8)	63 (100.0)
Businessmen	4 (07.8)	35 (68.6)	12 (23.5)	51 (100.0)
Others	8 (18.2)	28 (63.6)	8 (18.2)	44 (100.0)
Total	34	126	40	200
Df:6	Chi-square : 6.690			P Value:.351
				Not Significant

The percentage of consumers with high level of satisfaction is found high among consumers are 15 (23.8) employed. The percentage of consumers with low level of satisfaction is found high among consumers are 10 (23.8) agriculturists. As the calculated P value is greater than 0.05, there does not exist any significant association between consumers occupation and level of satisfaction. Hence, the null hypothesis is accepted.

PERIODICITY BUYING BEHAVIOR

To examine if periodicity of buying is associated with the level of satisfaction on various measures adopted, the following hypothesis has been framed and tested.

H₀: Periodicity of buying does not influence the level of satisfaction on various measures adopted.

TABLE 10: PERIODICITY BUYING BEHAVIOR AND LEVEL OF SATISFACTION

Periodicity	Level of Satisfaction			Total
	Low	Moderate	High	
Up to One Year	16 (15.5)	59 (57.3)	28 (27.2)	103 (100.0)
2 to 5	10 (14.1)	51 (71.8)	10 (14.1)	71 (100.0)
Above 5	8 (30.8)	16 (61.5)	2 (07.7)	26 (100.0)
Total	34	126	40	200
Df:4	Chi-square : 10.677			P Value:.030
				Significant

The percentage of consumers with high level of satisfaction is found high among consumers periodically buying 28 (27.2) up to one year. The percentage of consumers with low level of satisfaction is found high among consumers periodically buying 8 (30.8) above 5 years. As the calculated P value is less than 0.05, there is a significant association between periodicity buying and level of satisfaction. Hence, the null hypothesis is rejected.

MOSTLY PREFERABLE PRODUCTS

To examine if mostly preferable products is associated with the level of satisfaction on various measures adopted, the following hypothesis has been framed and tested.

H₀: Mostly preferable products does not influence the level of satisfaction on various measures adopted.

TABLE 11: MOSTLY PREFERABLE PRODUCTS AND LEVEL OF SATISFACTION

Product	Level of Satisfaction			Total
	Low	Moderate	High	
Cloths	17 (18.7)	50 (54.9)	24 (26.4)	91 (100.0)
Watches	5 (10.0)	40 (80.0)	5 (10.0)	50 (100.0)
Kitchen Wares	0 (00.0)	12 (75.0)	4 (25.0)	16 (100.0)
Electronic Items	12 (27.9)	24 (55.8)	7 (16.3)	43 (100.0)
Total	34	126	40	200
Df:6	Chi-square : 16.117			P Value:.013
				Significant

The percentage of consumers with high level of satisfaction is found high among consumers buying in cloths 24 (26.4). The percentage of consumers with low level of satisfaction is found high among consumers buying 12 (27.9) electronic items. As the calculated P value is less than 0.05, there is a significant association between mostly preferable products buying and level of satisfaction. Hence, the null hypothesis is rejected.

TABLE 12: FACTORS INFLUENCING SATISFACTION ON ONLINE SHOPPING

Features	SA	A	NA	Total	Mean Score	Rank
Save time	153	37	10	200	7.03	2
	76.50	18.50	5.00			
Online payment methods.	126	53	21	200	6.12	11
	63.00	26.50	10.50			
Save money	126	70	4	200	6.30	10
	63.00	35.00	2.00			
Checking prices	156	36	8	200	7.15	1
	78.00	18.00	4.00			
Shopping through internet.	136	50	14	200	6.46	7
	68.00	25.00	7.00			
Buy in leisure time.	112	78	10	200	5.84	12
	56.00	39.00	5.00			
Online advertisement	131	61	8	200	6.38	8
	65.50	30.50	4.00			
A better quality product.	135	57	8	200	6.54	5
	67.50	28.50	4.00			
Easy to compare many products.	129	63	8	200	6.36	9
	64.50	31.50	4.00			
Clear images of the product.	142	48	10	200	6.68	3
	71.00	24.00	5.00			
Product returns were easier.	137	63	0	200	6.62	4
	68.50	31.50	0.00			
Delivery system.	138	50	12	200	6.53	6
	69.00	25.00	6.00			

From the Friedman rank test it is inferred that majority of the consumers satisfaction on buy goods through online shopping due to checking prices followed by save time, clear images of the product by online vendors etc.,

SUMMARY OF FINDINGS

The important results of this study are presented in this chapter under broad category namely Socio-Economic Profile, online Shopping behaviour, Satisfaction of online shopping, Problems faced in online shopping and Preferred online websites of the respondents.

SOCIO- ECONOMIC PROFILE

- Majority 115 (57.5%) respondents are between the age of 21- 30.
- Majority 110 (55.0%) of the male respondents use online shopping.
- Majority 102 (51.0%) respondents are married.
- Majority 136 (68.0%) respondents have completed UG degree.
- Majority 63 (31.5%) respondents are private employees.
- Majority 76 (38.0%) of the respondents have a monthly income of above Rs. 20,000.
- Majority 87 (43.5%) respondents occasionally buy the products from online.
- Majority 91 (45.5%) respondents mostly buy clothes from online websites.
- Majority 117 (58.5%) respondents are ordering the products from online in the home.
- Majority 130 (65.0%) respondents use mobile phones for online purchase.
- Majority 71 (35.5%) respondents use cash on delivery for the payment.
- Majority 117 (58.5%) respondents mention the delivery time for receiving online product is up to 3 days.

LEVEL OF SATISFACTION TOWARDS ONLINE SHOPPING

The variables like Marital Status, Educational Qualification, Occupation, Monthly Income, Frequency of Purchase, Amount spent in online are not associated with the level of satisfaction.

The variables like Age, Gender, Periodicity buying behavior, mostly preferable products, are associated with the level of satisfaction.

PREFERENCE TOWARDS ONLINE SHOPPING- FRIEDMAN RANK ANALYSIS

From the Friedman rank test it is inferred that majority of the consumers prefers to buy goods through online shopping due to Secure payment process followed by Company reputation, Special Discounts offered by online vendors etc.,

SATISFACTION ON ONLINE SHOPPING- FRIEDMAN RANKING ANALYSIS

From the Friedman rank test it is inferred that majority of the consumers satisfaction on buy goods through online shopping due to checking prices followed by save time, clear images of the product by online vendors.

SUGGESTIONS

- Websites are to be made user friendly. Online retailers can use oral communication to make known their websites known to the consumers.
- Government certification can be tried for authentic delivery and proper service, which build trust.
- Increasing changes in the technology of the 21st century, practically everything is virtually possible, and shopping from the comfort of one's home has become a part of most people's daily lives. Unfortunately, some people are not having enough knowledge about shopping through online. So awareness should be created to the customers about shopping through online.
- The delivery period in online shopping to supply the goods taken one week. The sellers must ensure the speedy delivery of the goods ordered through online shopping.
- Introducing various offers through online shopping like discount sale, gift vouchers, free gifts, etc. So that more consumers will be attracted towards online shopping.

SCOPE FOR FURTHER STUDY

The study carried out on online shopping sites throws light on the benefits and drawbacks in online shopping sites. This study helps to enhance the online shopping sites. Through this, online shopping sites can know the opinion of rural customers in their online shopping sites. Future studies can be carried out by applying many tools in multiple online shopping sites. The customers must be aware of all the techniques, strategies, methods adopted by the sellers to market their products in online shopping which will help them to get their products at the competitive rate with better quality.

CONCLUSIONS

The study has been carried out to track the online buying behavior of rural area consumers. It is found that amazon has more consumers satisfaction compared to other online shopping sites like flipkart, snapdeal and shopclues. This study clearly points out the main reason of online shopping because of the possibility of checking, verifying the products and comparing their prices; it also saves time and given ample opportunity to verify the different features of the products.

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TELEMEDICINE: RECENT ADVANCES IN INNOVATIVE HEALTHCARE

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Telemedicine is the use of telecommunication and information technology to offer clinical health care from a distance. It has been used to defeat distance barriers and to improve access to health care services that would frequently not be consistently available in distant rural areas. It is the instant solution to increasingly complex healthcare issues. It is also referred to as telehealth or e-health. It is the use of "connected" medical devices in the evaluation, diagnosis and treatment of patients who are located at distant geographical locations. It offers the inborn advantage of distantly accessing the best of health services without the need to travel distances to reach an expert medical practitioner. It is also used to save lives in critical care and in emergency. There have been path-breaking advances in information technology, which has led to the incredible achievement of linking doctors and patients who may be thousands of miles away. Ground-breaking innovations in the field of telecommunications have turned the world into a global village.

KEYWORDS

tele-health care, tele-education, telemedicine offerings, models of telemedicine.

HISTORY

In the early 1900s, people living in remote areas of Australia used two-way radios, powered by a dynamo driven by a set of bicycle pedals, to communicate with the Royal Flying Doctor Service of Australia.

The first interactive telemedicine system, operating over standard telephone lines, designed to remotely diagnose and treat patients requiring cardiac resuscitation (defibrillation) was developed and launched by an American company, Med Phone Corporation, in 1989. A year later under the leadership of its President/CEO S Eric Wachtel, Med Phone introduced a mobile cellular version, the MD Phone. Twelve hospitals in the U.S. served as receiving and treatment centers (<https://en.wikipedia.org/wiki/Telemedicine>).

Attempts to apply telecommunications technology to enhance and provide healthcare over dispersed geographic locations date back to the early 1960s (Garshnek & Hassell, 1999).

INTRODUCTION

"*Tele*" is a Greek word meaning, "*distance*" and "*mederi*" is a Latin word meaning "*to heal*". **Time magazine** called telemedicine "*healing by wire*".

Telemedicine has a variety of applications in patient care, education, research, administration and public health. Worldwide, people living in rural and remote areas struggle to access timely, good-quality specialty medical care.

Residents of these rural and remote areas often have substandard access to specialty healthcare, primarily because specialist physicians are more likely to be located in areas of concentrated urban population. Telemedicine has the potential to bridge this distance and facilitate healthcare in these remote areas (<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2782224/>).

Telemedicine is the use of "connected" medical devices in the evaluation, diagnosis and treatment of patients who are situated at other locations. It refers to the use of web-enabled technology in the medical processes of diagnosing and treating patients who may otherwise be miles away. Telemedicine has emerged as a combination of telecommunications and medical information sciences (Mishra, 2003).

Telemedicine Information Exchange (1997) has defined telemedicine as the "use of electronic signals to transfer medical data (photographs, x-ray images, audio, patient records, videoconferences, etc.) from one site to another via the Internet, Intranets, PCs, satellites, or videoconferencing telephone equipment in order to improve access to health care." Reid (1996) defines telemedicine as "the use of advanced telecommunications technologies to exchange health information and provide health care services across geographic, time, social, and cultural barriers."

Key drivers for telemedicine projects are:

Huge rural population, the time-lag factor, cost effectiveness, technological innovations, breaking geographical boundaries and knowledge enhancement (e-Health, 2007).

APPLICATIONS

1. **Tele-health care:** It is the use of information and communication technology for prevention, promotion and to provide health care facilities across distance. It can be:

- Teleconsultation
- Telefollow-up

2. **Tele-education:** It should be understood as the development of the process of distance education (regulated or unregulated), based on the use of information and telecommunication technologies, that make interactive, flexible and accessible learning possible for any potential recipient. (<http://www.aiims.edu/aiims/telemedicine/telepage.htm#Applications>)

Telemedicine Facility

Patients have access to medical practitioners through computer networks. The two parties can see and talk to each other through teleconferencing or videoconferencing facilities over the network. Medical data like reports, pictures, figures, samples, heartbeat, pulse rate, blood pressure all can be transmitted over the network by connecting medical devices to computers.

Telemedicine Centres

There are two types of centers viz. consulting center (local/nodal site on the patient's end) and specialty center (the central hub at the specialist's end).

- 1. Telemedicine Consulting Center:** Here video-conferencing equipment, diagnostic equipment and software are integrated onto one platform which allows capture of patient EMR (Electronic Medical Record) data such as patient history, diagnosis, vital signs, etc.; capture of diagnostic images like X-rays, CT scans, etc.; scheduling of appointment with the specialist; transfer medical records and diagnostic images to the specialist.
- 2. Telemedicine Specialty Center:** The software on this side enables the specialist to confirm appointments; download EMR sent from local site; view diagnostic data and slice, flip, magnify, measure etc. while viewing output of CT-Scans etc. via video conferencing and send specialist comments to the local site.

Telemedicine Media

Connectivity between the specialty and local centers can be provided through the use of the following media:

- **Internet:** The most popular media for telemedicine is the Internet. The Internet, which is one big web that connects people across the globe, is used to hold videoconferencing sessions, chats, mails and other such online exchanges of data, sound and image.
- **Intranet:** The intranet is a private network that is located inside an organization's building, premise or campus and works just like the Internet. Intranets can be used for quick exchange of data between two different departments or practitioners in a large medical facility without the need of moving between rooms and corridors.

Telemedicine Offerings

Five major types of services may be provided by way of telemedicine:

- 1. Diagnosis-** Doctors can examine patients through their video footage on computer screens. Suitable measuring devices can be connected to the computer to access heartbeat, blood pressure etc.
- 2. Prescription-** Through online examination, the practitioner can evaluate a patient's problems and prescribe the necessary drugs and dosages.
- 3. Consultancy-** Medical practitioners dispense with professional advice and can hold counseling sessions over the network.
- 4. Virtual Treatment-** Advances in IT are today helping medical practitioners to hold online surgeries, operations, amputations and such other forms of treatment.
- 5. Information Dissemination-** Health care service providers can use the net to share views and provide information to present and prospective clients about healthcare benefits, facilities and developments.

The **applications** involved in providing above services are:

- **Teledermatology:** Physical examination of the patient for skin ailments.
- **Teleradiology:** Reading still and full motion radiographic images.
- **Telepathology:** Analysis of tissue histology samples.
- **Telemedication:** Prescribing the necessary medicines.
- **Telemonitoring:** Guiding surgical and other clinical procedures.

Categories of Telemedicine Services

Two major categories of telemedicine services can be:

- 1. Live:** Real time transmission where the consulting professional participates in the examination of the patient while diagnostic information is collected and transmitted.
- 2. Store and forward:** A transmission mechanism where the medical professional reviews data asynchronously and extends his advice.

Advantages of Telemedicine

Blakeslee *et al.* (1998) concluded the following as advantages of telemedicine:

- Increasing access to specialty consultants.
- Increasing information exchange among physicians
- Enhanced patient-doctor relationship.
- Enhanced continuity of care.
- Less indirect cost to the patient and physicians.
- Increasing ability to network among physicians participating in new health care delivery organizations.

Models of Telemedicine

Three major models:

- 1. Access Model:** Telemedicine provides service accessibility to remote and distant areas by linking people through the use of telecommunication devices. It helps improve access to specialty services without the need for the patient to travel a long distance to a facility where those services are being actually provided.
- 2. Competition Model:** Telemedicine helps improve the competitive position of health-care service providers by helping them leverage their potentials far and wide. It helps enlarge market and thus capture profitable business opportunities. Customarily, the market zone of a health care service provider has been limited to the distance a patient is willing to commute. It helps export medical expertise to any location, which is equipped with the requisite infrastructure.
- 3. Cost Saving Model:** Telemedicine involves huge initial outlays, the resulting benefits far outweigh the costs. Costs are lowered in the long term due to increase in service usage rate. Such cost savings accrue to service providers due to reduction in variable cost of telemedicine implementation.

IMPLICATIONS FOR MANAGERS

Three major categories of managerial issues can be identified:

- 1. Implementation Functions**
- 2. Implementation Procedure**
- 3. Implementation Barriers**

- 1. Implementation Functions:** Important implementation issues result from the requirements of different functional areas of management.

Production Technology: Technology is the spirit of telemedicine. It involves the heavy task of choosing the right technology mix that optimizes the returns.

Technology mix would involve crucial decisions on three fronts:

- ☐ **Hardware requirements-** Telemedicine involves the use of hybrid technology incorporating elements of television, telecommunications, computers, and engineering. Clinical details of patients located in remote area including his ECG, X-Rays, CT scan and other diagnostic images are transmitted through telephone lines to a doctor located at a specialist hospital. The doctor analyses the data and transmits back his diagnosis and advice to the remote center. Commonly used telemedicine equipment are:
 - E-scope
 - General Examination Camera
 - Videophone
 - Illumination and Imaging System
 - Auscultation System
- ☐ **Software requirements-** Development of integrated telemedicine system involve a number of software issues:
 - Application Software
 - Device Interfaces
- ☐ **Networking requirements-** Two major types of networking requirements can be identified depending on "live" or "store-and-forward" typologies:

- Live telecommunication option
- Store-and-forward telecommunication option

Marketing: Telemedicine service provider has to be clear about the following aspects related to marketing:

- ❑ *Product:* Product mix may include diagnosis, prescription, consultancy, virtual treatment and information sharing.
- ❑ *Pricing:* An appropriate pricing strategy will have to be evolved.
- ❑ *Placement:* Service provider needs to determine the reach, extent, scope and coverage.
- ❑ *Promotion:* Appropriate promotional tools along with informative communication need to target the intended beneficiaries.

Human Resource Initiatives: For smooth implementation of the programme, the management will have to provide for effective design of the Human Resource System and practice for the same.

- ❑ *Human Resource Planning:* Four broad classes of manpower requirements can be identified in the context of telemedicine
 - *Managers:* There would be need for *Programme Managers* for overall general management, *Functional Managers* for managing different functional area activities, *Clinical Managers* for liaison between different units and centers and *Site Managers* for overseeing the individual telemedicine sites.
 - *Administrators and programmers:* These would involve network specialists, programmers, system analysts, network administrators and managers of information systems.
 - *Service Dispensers:* The programme would require doctors, consultants, nurses and other medical professionals both at the local site as well as the specialist centers.
 - *Support Staff:* A number of varied services will be required to support the programme. Support staff would dispense with necessary administrative, technical and advisory function related to finance, marketing, human resource, etc.
- ❑ *Training:* Appropriate training will have to be given to the personnel for effective and efficient management of technology and technological devices for quality assurance.
- ❑ *Remuneration:* Suitable compensation packages will have to be designed for the different categories of personnel.

Finance: Financial implications may be considered in two categories:

- ❑ *Capital Budget:* Implementation of the programme would require capital expenditure in site setup, equipment, software, networking and other infrastructure.
- ❑ *Operating Budget:* Management of day-to-day operation of the telemedicine programme would involve routine expenses like compensation and training of staff, systems maintenance, telecommunications costs etc.

2. Implementation Procedure

Following steps may be involved in the implementation procedure:

- *Spell out* the programme needs and objectives
- *Specify* the nature of service to be offered
- *Analyze* the likely costs and benefits of the investment
- *Lay down* activating strategy in terms of required resources
- *Specify* site location and site design
- *Set up* the initial infrastructure and equipment
- *Undertake* step-by step implementation of the programme
- *Establish* monitoring and review mechanism for smooth working
- *Measure* success using access, competition and cost-saving models
- *Rectify* any shortfall and follow-up the progress

3. Implementation Barriers: Often a number of barriers obstruct the flow of the implementation procedure

- *Educational barriers:* Lack of training and technical sophistication on the part of both users as well as service providers.
- *Legal barriers:* Regulatory restrictions on programme and procedural implementation from the government.
- *Social barriers:* Ignorance and xenophobia towards new technology and practices.
- *Financial barriers:* Resource constraints and financial stringency with respect to huge initial cost outlays.
- *Technical barriers:* Cost and availability of technical infrastructure for service delivery.
- *Emotional barriers:* Perceptual problems and non-acceptance of distance healing.

TELEMEDICINE IN INDIA

Healthcare in India is not accessible to almost 80 per cent (620 million) of the population living in the rural areas that are deprived of quality healthcare. While in developed countries, there is one doctor for every 500 persons in India this ratio is one to 15,500. Medical specialists are mostly restricted to urban areas. Difficulty is also posed by India's vast geographical spread. In this odd situation, only a modern innovation like telemedicine can bridge the geographical distances. Rural patients can be prevented from travelling huge distances, and thereby avoiding significant expenses by being offered the same treatment by a local doctor with advice from a specialist living elsewhere (Srikanth, 2003).

Some studies (Mukherjee and Dhawan, 1999 & Lobo 2001; Brindha, 2013; Cherian, 2016) give a detailed idea of the type of activities that are going on in the field on telework in India and telemedicine is cited as one major emerging area. There have been quite a few efforts to use telemedicine at the initiative of the private parties. One can see a small but encouraging movement across the Indian landscape. Several initiatives have been made in different parts of the country (Radhika, 2001; Srikanth, 2003; Assocham, 2016):

- National Telemedicine Technology Project was launched involving the three premier Medical Institutions of the country i.e. Post Graduate Institute of Medical Education & Research, Chandigarh, All India Institute of Medical Sciences, New Delhi & Sanjay Gandhi Post Graduate Institute of Medical Education & Research, Lucknow.
- Private hospitals such as Apollo Hospital Group, Fortis Escorts Heart Institute and Research Centre, Escorts Heart Alert Service and Fortis Healthcare have made commendable strides in this sphere. Apollo Hospitals Group is a pioneer in the field of Telemedicine in India and is credited with being the first to set up a Rural Telemedicine Centre (March 2000) in the village of Aragonda in the state of Andhra Pradesh. The Group now has an extensive network of 32 Telemedicine Centres linking places like Chennai, Hyderabad, Calcutta and New Delhi with remote areas of the country like Kohima, Guwahati, Aragonada and Sriharikota.
- Asia Heart Foundation and Research Centre (Bangalore) has successfully been practicing telecardiology between Bangalore and cities in eastern India. Paramedics are guided to save the patients suffering from acute Myocardial Infarction (MI) by performing life-saving procedures as per directions from doctors over video conferencing. Recently, the Institute in association with the Cleveland Clinic Foundation, United States of America, has spelled out in its new initiatives the introduction of phased telemedicine facility linking all districts of Maharashtra through use of its sophisticated IT infrastructure.
- The Pune district administration has teamed up with doctoranywhere.com (India's first ISO 9002-certified telemedicine company) and Tata Council for Community Initiatives (TCCI) to launch a telemedicine service from a government Primary Healthcare Center.
- Ahmedabad based Online Telemedicine Research Institute (OTRI) provided telemedicine links for teleconsultation, thereby establishing 750 sessions in a period of 30 days in Bhuj after the earthquake in January, 2001. During the Kumbh Mela festival, which drew over 25 million pilgrims to the banks of river Ganga, the OTRI transferred data (cardiology and radiology data) of over 200 ailing pilgrims, besides sending microscope images of microorganisms to monitor levels of cholera-causing bacteria in the river.

- Indian Space Research Organization's decision to launch an exclusive satellite to service healthcare in 2004 has provided a major boost to the growth of the telemedicine industry in India.
- A pilot project is being carried out at IIT, Kharagpur, supported by the Ministry of Information Technology, in association with Institute of Tropical Disease (Howrah), in which an attempt is being made to treat patients at local telemed centers in remote areas.
- The Telemedicine Technologies Centre (Mumbai) is providing telemedicine services in India and Bangladesh, through expert opinions from specialist tele-consultants in the United States of America — saving both time and money.

It is heartening to note that the government has taken a series of steps to make telemedicine a success story. For instance, recently, the Ministry of Information Technology has framed guidelines for telemedicine. The framing of the guidelines has given a boost to an industry, which is seen by many as the only practical solution to India's healthcare problems. The government has also reduced import tariffs on infrastructure equipment. India's healthcare industry is worth over \$16 billion, and is expected to grow by 13-15 percent annually. Whatever the outcome, the age of telemedicine has arrived in India. India is expected to become a hot destination for telemedicine.

CHALLENGES IN IMPLEMENTING TELEMEDICINE

- Identification of a Suitable site and preparation of site for Telemedicine facility.
- Synchronization of civil, electrical and equipment related works.
- Identification of a nodal officer for coordinating Telemedicine activities in the hospital.
- Sensitization and repeated hands-on training of concerned Doctors, Technicians and Nurses.
- Coordinating with referral centers to fix mutually convenient tele-consultation sessions on a regular basis.
- Ensuring trouble free and smooth connectivity ("Telemedicine Projects in West Bengal", 2006).

WAY FORWARD

- Hand-holding support to Hospital administration for 3-4 years for stabilization of telemedicine services.
- Integration of Telemedicine activities with Health Management Information System for regular reporting (preferably web-based).
- Including Telemedicine activities in the performance appraisal of individuals and institutions.
- Introducing Telemedicine (concept, technical aspects and implementation arrangements) as part of medical education & continuing medical education (CME) ("Telemedicine Projects in West Bengal", 2006).

TELEMEDICINE FACILITIES FOR ARTHUR ROAD JAIL INMATES

The Arthur Road Jail in Mumbai has equipped itself with telemedicine facilities for ailments like skin infections, which over 2500 jail inmates suffer from (Yadav, 2017). This activity, has been launched in co-ordination with the state-run JJ Hospital. It is expected to decrease the burden on the local police escort staff that accompanies a prisoner every time he is taken to a hospital. The risk of a prisoner running away in transit will also be taken care of.

Prior to Arthur Road Jail, certain prisons like Nashik had been equipped with the telemedicine facility for basic problems that the inmates suffered from, like cold and cough.

CONCLUSIONS

Telemedicine seems to be just the right answer to increasingly complex healthcare issues. It is the use of "connected" medical devices in the evaluation, diagnosis and treatment of patients who are situated at distant geographical locations. It offers the inherent advantage of remotely accessing the best of medical services without the need to travel distances to reach a specialist medical practitioner.

Revolutionary innovations in the field of telecommunications have turned the world into a global village. It has become possible for people to get "virtually" treated by doctors through a communications network.

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IMPACT OF GLOBALIZATION ON INDIA

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ABSTRACT

The present research paper is framed to study the changing position of Bharat in the globalised market. Industrial sector is booming position in the country due to global effect. Make in India, Startup India etc. are very crucial programs to encourage the foreign capital in the country to attain the benefits of globalization for the nation. This research work is an attempt to briefly analyze the changing scenario of Indian industrial sector due to globalization. For the completion of the present exploratory study, secondary data has significantly used to find the results and findings.

KEYWORDS

globalization in Bharat, changing position of foreign direct investment.

INTRODUCTION

Before 1990s Indian economy was full with lot of problems in context of industries. Agriculture and handicrafts was the basic industries of Indian economy. After the independence of the country in 1947, government started to run the economy in systematized manner from 1951 with first five year plan but second five year plan from 1956 was the first five year plan for the industries of the country through improvement and special attention on small scale industries in the country. But with the changing scenario of the business world as well as economic situation Indian economy came in front of world with New Economic Policy with the implementation of liberalization, Privatization and Globalization. Growth and development is not an easy task for any nation without involvement of the other nation. All over the world is becoming a 'global village'. Every nation has surplus of some commodities and deficit also for some commodities. These surplus and deficit situation creates the interlinkages among different nations. Globalization focuses on the movement of goods from one nation to another nation without extra intervention of the government or any central authority. Globalization lives a very vital role especially for developing countries like as Indian economy. From 1990-91s, Indian economy opened the doors of the nation by comforting the foreign trade rules & regulations to become a part of globalization. *The term globalization is derived from the word globalize, which refers to the emergence of an international network of social and economic systems*¹. With the passage of time, Indian economy has got many prospects of growth & development in the competitive edge. India is a rural based developing nation and many international organizations like as IMF, WTO, etc. also helping on the path of progress.

REVIEW OF LITERATURE

An excursion on historical research studies helps the researcher to explore on objectives of the study. Lodhi (2014) resulted very significant position of FDI in the country by using the analysis tools like as AGR and CAGR, also judged the key factors effecting FDI in the country. Kumari (2013) studied the place of FDI in retail sector and forecasting for 2016 in India. Secondary data has significantly used with regression & trend analysis of 12 years. This study concluded mainly the equity inflow in the nation.

A study by Kumari (2012) was framed from 1992-2004 with the help of GS model. Positive relation of growth of manufacturing economy and globalization was concluded in the study. Goyal (2006) studied for service sector as a growth indicator for the nation by focus on the effect of LPG policy on India and developing nations. Joshi (2008) study based on Indian economy and service sector. Indian government is performing very well for the promotion of service sector. In this study the conclusions had drawn that organized retail, hospitality, telecom, entertainment and financial services.

RESEARCH METHODOLOGY

This study is exploratory in nature and secondary data based study, different secondary source of data like as books, journals, research papers, etc are studied for the completion of the research work. This study is based on Indian growth & development performance under globalised situation. Appropriate methodology is the main requisite for completion of research work.

OBJECTIVES OF THE STUDY

The keen objective of this research work is to explore the globalization and its impact on Bharat by changing position of foreign direct investment in the nation.

LIMITATIONS OF THE STUDY

This is a secondary data/information research work. As we know, secondary data have some limitations and few errors can be happened. So in this study contains all the errors and limitations of the secondary data. The limitations of the secondary data can also influence the results of the research work as well.

FINDINGS OF THE STUDY

With the exploration of the historical data, this study resulted very positive change on the inflow of foreign capital in the country. This inflow is the real result of the Indian globalised policy, which encouraging the foreign business players to invest in the country.

TABLE 1

SOURCE	2012-13	2013-14	2014-15
Manufacturing	6,528	6,381	9,613
Construction	1,319	1,276	1,640
Financial Services	2,760	1,026	3,075
Real Estate Activities	197	201	202
Electricity and other Energy Generation, Distribution & Transmission	1,653	1,284	1,284
Communication Services	92	1,256	1,075
Business Services	643	521	680
Misc. Services	552	941	586
Computer Services	247	934	2,154
Restaurants and Hotels	3,129	361	686
Retail & Wholesale Trade	551	1,139	2,551
Mining	69	24	129
Transportation	213	311	482
Trading	140	0	228
Education, R & D	150	107	131
Others	43	293	232
Total FDI	18,286	16,054	24,748

Source: Annual Report, RBI (2014-15) [fdi inflow]

KEY FINDINGS

1. IT services and infrastructural development taking place at very good heights.
2. Due to foreign technological change, total production of food grains (Rice, Wheat, Pulses, etc.) is also rising.
3. Lot of increase in Industrial production like as mining, manufacturing, electricity, etc.
4. 49% FDI to Defense sector, 100% FDI in construction, operation and maintenance in specified Rail Infrastructure projects, providing licensing facility by e-portal, designing smart cities for industrial growth with the promotion of 'Make in India' plan in Bharat.

CONCLUSION

India is becoming a super power in the world. Globalization is a real path towards the growth and development of Bharat. In the present study with the exploration of historical studies as well as the historical data of foreign investment in the country, position of the nation found very good. With the conclusion of the study it is stated that globalization play a very significant role for the progress of a nation. Government of India is also taking new initiatives like as 'Make in India', Start up India, etc. to attain a fine position in the world.

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DEMONETIZATION IMPACT ON TEXTILE INDUSTRIES IN BHIWANDI, THANE**DR. RASHMI SONI****ASSOCIATE PROFESSOR****K J SOMAIYA INSTITUTE OF MANAGEMENT STUDIES & RESEARCH
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MUMBAI****ABSTRACT**

Narendra Modi announced demonetization of Rs. 500 and Rs. 1000 currency notes from midnight of 8th November 2016 so after this day the legal tender of Rs. 500 and Rs. 1000 currency of RBI will not valid in India and whole world. This decision lightly effect in textile industry in India like purchase of new yarns and fabric from cash payment in India. Textile industry is majority depends on labour and job work of textile like embroidery job work, fabric printing and other textile labour work. Demonetization will affect cotton and cloth industry because new cotton will not buy in India for next few days and price of cotton will reduce suddenly for next few days. This Paper focuses on the impact of demonetization on power loom sectors, labour and overall textile industries in Bhiwandi.

KEYWORDS

demonetization, power loom sector, labour, government, manufacturers, textile industry.

INTRODUCTION

Central government moves on withdrawal currency of Rs. 500 and Rs. 1000 from market. It will create some negative impact on cotton yarn market and textile machinery manufacturers¹. Textile analytical says that this effect is for short term period. Textile business in India is mainly depends on cotton industry and textile job work in India. This will also affect readymade garment business in India. RBI will change old currency of Rs. 500 and Rs. 1000 notes in own bank accounts.

China and Bangladesh is main competitor of India in textile sector so for next coming days all export business of textile in India will little slow because of unavailability of currency in India. Yarn exporters and cotton yarn manufacturers will unable to buy cotton from Indian markets. The production of cotton from farmers will stock from November 9, 2016. It will have declined impact in small consumer business apparel garment cloth, ethnic wear products, textile job work, home textile furnishing product and on fibre and cotton raw material prices variation in economy market in India. As a consumer retailer shop in urban and small town, if we depend on cash counter by customer it could be tough over the next one week to month.

MAHARASHTRA TEXTILE INDUSTRY

Claims of store up the economy and getting dispose of black or corrupted money through demonetisation ring hollow in Ichalkaranji town, better called as the Manchester of Maharashtra, as textile mills and cotton-weaving power looms are being offered banned or illegal currency notes towards payment.

In just few days, the daily turnover at the textile hub has declined from Rs. 45 crore to Rs. 13 crore as traders are abolishing the orders unless the mills accept payment in demonetised notes.² Bulk orders have been abolished and transportation of raw material has been late. More than 80,000 workers works in the looms and the yarning, sizing and processing units are abandon the town as payment of their wages has been delayed. Majority of these workers are from Uttar Pradesh and Bihar. Located more than 200 kilometres from Pune, Ichalkaranji has been a major textile hub in the country and sends ready cloth to Ahmedabad, Mumbai, Madhya Pradesh, Delhi, West Bengal and Karnataka.

Since the first textile unit was set up here in 1904, the town has thrived on the booming cotton trade that caters to the needs of major national and international brands. Satish Koshti, president of the Ichalkaranji Power loom Weavers Cooperative Association Limited, "The industry was already struggling because of strong competition. Now, with the government's note-ban bombshell, we are completely crippled."

BHIWANDI TEXTILE INDUSTRY

Till November 8, power looms in Bhiwandi, a town 20 km north-east of Mumbai, worked in two shifts of 12 hours each. That changed in India's Manchester of the West after demonetisation came into effect. Business has slowed because of fewer orders and the cash crunch is preventing owners and workers from completing the limited work they have.

"About 70 percent of the 1.2 million power looms in Bhiwandi have closed their shutters and the rest will close down soon,"³ said Abdul Mannan Siddiqui, a power loom owner and president of the industry body Shantinagar Powerlooms Association. While Bhiwandi's power loom industry, which weaves a third of the cloth that India wears, had been struggling on account of high electricity rates, dumping by China and administrative hurdles, demonetisation has dealt a crippling blow for many here. Sajid Alam, a power loom worker, says, "I have been running from pillar to post, seeking a job following the closure of the unit I was working for. I was earning Rs 10,000 a month. I am not earning anything now." Power loom owner Anwar Husain, who has been managing his business for over two decades in the Jabbar Compound region of Bhiwandi, says limited cash withdrawals have hampered operations.

Another power loom owner, Hayat Khan, says his unit produced 1,800 metres of cloth a day before demonetisation. "I am unable to withdraw enough money as banks do not have sufficient cash. Wages and electricity arrears are mounting. The situation is worse than in 1999-2000, when there was a slump in business," he says.

Bhiwandi, a 150-year-old town, is a key supplier of grey, a kind of rough-hewn cloth that is processed into fabric. According to local manufacturers, earlier about 600 trucks of yarn reached Bhiwandi daily to be spun into grey. Now there is none.

Purushottam Vanga, vice-chairman, Powerloom Development & Export Promotion Council, says almost 80 percent of the workforce in Bhiwandi are migrants. "Half of them have returned home." While the government has taken cognizance of the situation, with Union Textiles Minister Smriti Irani visiting the town last week and promising relief measures, the emphasis is now on shifting to opening bank accounts for workers here. But executives of industry bodies such as Vanga,

¹ www.textileinfomedia.com/.../RBI-demonetization-

² Dalia Marin (2002) "Trust Versus Illusion: What is Driving Demonetization in the Former Soviet Union?", Economics of Transition, Vol. 10, Pp. 173-200.

³ Times of India

who is also president of the Bhiwandi Padmanagar Powerloom Weavers Association, are hopeful. "If the decreasing sales of readymade cloth in the market following demonetisation can be addressed, we can tide over other teething problems."⁴

REVIEW OF LITERATURE

Dalia Marin (2002) had expressed his view in the Research titled "Trust Versus Illusion: What is Driving Demonetization in the Former Soviet Union?" and found that no systematic difference in the pricing behaviour in non-cash transactions across sectors. What appears to matter for the pricing behaviour is whether the firm is on the selling or buying end of the barter transaction? We offer a model that sees this pricing behaviour as a mechanism to deal with the absence of trust and liquidity in the economy. Frank Perlin (2008) had expressed his view in the Research paper titled "Growth of money economy and some questions of transition in late pre-colonial India" that presenting the problem in terms of the unprecedented international flow and sub-continental use of monetary media which took place between the sixteenth and early nineteenth centuries. The result is to place India firmly on the map of developments affecting the world more generally, long before colonialism. Ioannis-Dionysios Salavrakos (2013), has expressed his view in the research paper titled "Capitalismus: Alea iacta est" and argues that capitalism can be analysed in six different periods. These are: the period of commercial capitalism (1500–1750), the periods of the first and second industrial revolutions (1750–1860 and 1870–1914 respectively); the period of capitalist crisis, associated with the world wars, the rise of Communism and the Great crisis of 1929 (1914–1945), the fifth period of modern capitalist development (1945–1973) and the final period the new phase of capitalist crisis (from 1973 until today). James L. Schoff (2014) has expressed his view in the research paper titled "A US-Japan Foreign Policy Alliance for Myanmar" Myanmar is now attempting, following an extended period of extreme isolation and amid unprecedented international and digital connectedness that exists today. This is a challenge not only for Myanmar, but also for the United States and Japan as they try to facilitate this Transformation In Productive Ways. Wyatt Wells (2014) Had Expressed His View In The Research Paper Titled " Rhetoric Of The Standards: The Debate Over Gold And Silver In The 1890s" and found that no major nation currently backs its currency with precious metal creates the suspicion that the issue was a "red herring" that distracted from matters of far greater importance. Yet the rhetoric surrounding the "Battle of the Standards" indicates that the more sophisticated advocates of both sides understood that, in the financial context of the 1890s, the contest between gold and silver not only had important economic implications but would substantially affect the future development of the United States. Toyomu Masaki (2016) has expressed his view in the Research paper titled "Multiple Monies in Senegambia (1815–1901) — Indian Cotton, Silver Coin, and Paper Money" that This study elucidates multiple monies and its interaction with the formal banking system in the Senegambia region for the period of 1815–1901. In particular, it focuses on the area from the Senegal River to Gambia River.

OBJECTIVES OF THE STUDY

1. To identify the impact of Demonetization on Textile Industry in Bhiwandi.
2. To identify whether the effect of Demonetization depends on the financial position of Textile industries in Bhiwandi.

HYPOTHESES

On the basis of the Review of Literature, following Hypotheses are identified:-

1. H₀ : There is no positive correlation between Demonetization and the impact on Textile industries in Bhiwandi.
H₁ : There is positive correlation between Demonetization and the impact on Textile industries in Bhiwandi.
2. H₀ : There is no positive correlation between the Demonetization and the financial position of Textile industries in Bhiwandi.
H₁ : There is positive correlation between the Demonetization and the financial position of Textile industries in Bhiwandi.

METHODOLOGY

- Survey method have been followed for the study.
- The data have been collected through primary and secondary sources.
- The primary data have been collected through a specially designed questionnaire.
- The secondary data have been collected through the government reports, books, journals and information available on Internet have been referred and considered for the proposed study.
- Sampling – Universe – Textile units in Bhiwandi
 - Size of Sampling- 30 Textile units
 - Techniques of Selection-Simple Random Sampling
 - Statistical tools: T-Test

DATA ANALYSIS AND INTERPRETATION

TABLE 1

Particular	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree	Total
1. Impact of Demonetization on Textile Industries in Bhiwandi	19	07	0	02	02	30
2. Number of labours left due to Demonetization	17	07	0	04	02	30
3. Demonetization effecting income and sales of Textile goods	12	13	0	03	02	30
4. Effect of Demonetization depends on the Financial position of Textile industries	14	06	02	03	05	30

It is observed from the above table that out of 30 units, 19 units has strongly agree that there is much impact of Demonetization on textile industries in Bhiwandi, 7 units are agree with the statement, 2 were disagree, 2 were strongly disagree. So, many of the units are agree with the statement.

It is observed from the above table that out of 30 units, 17 units has strongly agree that most of the labours left due to Demonetization, 7 units are agree with the statement, 4 were disagree, 2 were strongly disagree that due to Demonetization the labours are left to Bihar and Uttar Pradesh. So, many of the units are agree with the statement.

It is observed from the above table that out of 30 units, 12 units has strongly agree that most of the labours left due to Demonetization, 13 units are agree with the statement, 3 were disagree, 2 were strongly disagree that due to Demonetization the income and sales of Textile goods are effecting. So, many of the units are agree with the statement.

It is observed from the above table that out of 30 units, 14 units has strongly agree that most of the labours left due to Demonetization, 6 units are agree with the statement, 3 were disagree, 5 were strongly disagree that effect of Demonetization depends on the Financial position of Textile industries. So, many of the units are agree with the statement.

⁴ Mr. Vanga, The President of Bhiwandi Padmanagar Powerloom Weavers Association.

TABLE 2

One-Sample Statistics				
	N	Mean	Std. Deviation	Std. Error Mean
1. Impact of Demonetization on Textile Industries in Bhiwandi	30	4.3000	1.20773	.22050
2. Number of labours left due to Demonetization	30	3.9677	1.49407	.26834
3. Demonetization effecting income and sales of Textile goods	30	4.0000	1.20344	.21972
4. Effect of Demonetization depends on the Financial position of Textile industries	30	3.7000	1.55696	.28426

TABLE 3

	Test Value = 0					
	T	Df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
1. Impact of Demonetization on Textile Industries in Bhiwandi	19.501	29	.000	4.30000	3.8490	4.7510
2. Number of labours left due to Demonetization	14.786	30	.000	3.96774	3.4197	4.5158
3. Demonetization effecting income and sales of Textile goods	18.205	29	.000	4.00000	3.5506	4.4494
4. Effect of Demonetization depends on the Financial position of Textile industries	13.016	29	.000	3.70000	3.1186	4.2814

TABLE 4

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The categories of Impact of Demonetization on Textile Industries in Bhiwandi occur with equal probabilities.	One-Sample Chi-Square Test	.000	Reject the null hypothesis.
2	The categories of Number of labours left due to Demonetization occur with equal probabilities.	One-Sample Chi-Square Test	.000	Reject the null hypothesis.
3	The categories of Demonetization effecting income and sales of Textile goods occur with equal probabilities.	One-Sample Chi-Square Test	.004	Reject the null hypothesis.
4	The categories of Effect of Demonetization depends on the Financial position of Textile industries occur with equal probabilities.	One-Sample Chi-Square Test	.005	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

From the above test, it is proved that the null hypothesis is rejected and the alternative hypothesis is accepted. The significance level is .05 as maximum industries were of the view that that there is a severe impact of Demonetization on Textile industries in Bhiwandi.

FINDINGS & CONCLUSION

From the above Data analysis, following issues are identified due to Demonetization:

- The Textile Industry in Bhiwandi is adversely effected due to Demonetization in terms of purchasing raw material, payment of wages to the workers, etc. Demonetization has not only effected power loom sectors in Bhiwandi but also effected to the entire Textile industries in India.
- There is a Constraint on cash withdrawals and it would negatively influence the procurement of new cotton, yarns and fabric in India.
- Demonetization has switch off some power looms sectors in Bhiwandi.
- The labourers in Bhiwandi has left unit and return back to their towns or villages like Uttar Pradesh and Bihar.
- It is observed that out of 30 units, 19 units has strongly agree that there is much impact of Demonetization on textile industries in Bhiwandi, 7 units are agree with the statement, 2 were disagree, 2 were strongly disagree. So, many of the units are agree with the statement.
- It is observed that out of 30 units, 17 units has strongly agree that most of the labours left due to Demonetization, 7 units are agree with the statement, 4 were disagree, 2 were strongly disagree that due to Demonetization the labours are left to Bihar and Uttar Pradesh. So, many of the units are agree with the statement.
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- It is observed that out of 30 units, 14 units has strongly agree that most of the labours left due to Demonetization, 6 units are agree with the statement, 3 were disagree, 5 were strongly disagree that effect of Demonetization depends on the Financial position of Textile industries. So, many of the units are agree with the statement.

It is concluded that the Textile Industry is severely affected due to Demonetization in terms of cash withdrawals for payment of new cotton, yarns and fabric. Also for payment of wages to the Labours. Many labours have shifted from Bhiwandi to Bihar and Uttar Pradesh due to problem of Demonetization. Many power loom sectors have switch off. From the above findings it is concluded that null hypothesis is proved which states that the textile industry in Bhiwandi is adversely effected due to Demonetization.

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A STUDY ON STRESS MANAGEMENT AMONGST FEMALE BANK EMPLOYEES IN TAMIL NADU DURING DEMONETIZATION

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ABSTRACT

In India, banks became the most stressed work place during demonetization. In spite of the advent of modern technology and innovations in the banking sector, the employees felt as overloaded with work and stressed out. Because of long working hours, spending stressful days and sleepless nights the bank officials in general were overstressed. They were constantly surrounded by distressed and angry customers. Hence, it has become hard for employees to cope with demonetization which resulted in stress. This made to study the types of stressors (organizational, individual, job and other organizational stressors) and effects of stress amongst female bank employees in Tamil Nadu. A sample of 50 female public sector bank employees was selected for the study. Random convenient sampling method is used. The study will help to find out the stressor which contributed in increasing the level of stress among the female bank employees in Tamil Nadu during demonetization.

KEYWORDS

stress, female bank employees, demonetization, banking sector.

INTRODUCTION

 Stress has become a common word in today's modern life. It has been ruling the common man's life; it can be work pressure or family issues or social activities. Various studies have been depicted that stress is rising in work places especially in banking sector, because of common technical and society behaviour problems. Bank these days are pushing them to over pressure. Banking sector has seen a lot of stress due to demonetisation. Most probably the female bank employees had suffered a lot more than male bank employees during demonetization issue. At the same time female employees managed their work load with lots of pressure on family issues. This type of stress can be overcome when it is well managed.

REVIEW OF LITERATURE

Joshi, Vijay and Goyal, K.A. (2012) had made an effort to study the stress management among the bank employees with reference to mergers and acquisitions. The study focused on the identification of many stressors that upsurge the level of stress among the employees. The stressors which were recognized in their study were uncertainty, insecurity, fears concerning job loss, job changes, compensation, changes in power, status, prestige, workload, working hours, technological problem at work, inadequate salary, time for family job worries at home group differences and communication. The findings recommended that employees' satisfaction should be the first priority of banks so that desired targets can be achieved.

Shukla & Garg (2013) had discussed that most of the female bank employees had fear with lack of appreciation in their work which puts high stress on them. It is found that 48% of female employees in banks remain in stress. 50% of female employees feel that they are overloaded with pressure. 46% of female employees feel tensed that there is change in job profile. It indicates fear and stress among female bank employees. 32% of female employees feel stress due to their family issues. It means such employees feel higher level of stress as compared to male employees. 28% of female employees accepted that there is conflict among the employees. Majority of the female employees try to find solution to relieve them from stress and 26% of female employees maintained their proper work plan to reduce work pressure.

Masood (2013) has discussed that employees have to work with positive determination even if they are not provided with the support; they need to perform their tasks for customers. They are more focused to avoid problems so as to work without any effect on their performance. This can finally help to increase the working conditions and the working relationships among employees peacefully.

Garg, Rachita and Shukla, Harish (2013) had attempted to study the reasons of stress among the bank employees and the ways used by them to cope with the stress at workplace. The authors used primary as well as secondary data for their study. They found that majority of employees in banks are over stressed. They found that the stressed employees also tried to find a solution to relieve them from stress. They suggested some stress management strategies such as encouraging and appreciating employees, job rotation, job enrichment, and decentralization, cracking jokes, playing games, guidance and counselling, quality consciousness awareness programs, psychological support and many more to lessen the stress. They also suggested working for five days in a week so that the employees can get more time for themselves and their family and discharge other social responsibilities.

Uma Mageswari S (2014) had made an attempt to identify the stress categories (stressors) and to examine the types of stress among bank employees of different sectors. The researchers consolidate the important observations that were recorded in the study major findings. A certain amount of stress is positive. Some of the stress leads to high pressure because of overload of work. Hence, effective stress management does not always mean minimizing stress. It is to keep the stress at the minimum level. Though the overall stress is moderate at present, it could be further shifted to standard level by giving special attention to the female employees. Necessary steps may be taken to control the level of stress, which exists among certain group of employees. The management should pay attention to female bank employees with more experience.

Azad, Tilottama (2014) had conducted a casual research in the banks of Bhopal in which he had defined various variables such as long working hours, improper reward system, lack of job autonomy, organizational culture, role conflict, lack of management support that led to stress in the banking sector. In his study, he investigated the effect of one variable over another. The aim of his study was to study the cause effect relationship between all these factors on the health and life of an individual employee. He concluded that management should take initiatives and stress management programmes should be started to minimize stress in the banks.

Dhankar, (2015) had researched the occupational stress level among employees of banking sector. There is not a single factor which determines the stress in bank employees. Factors like work overload, peer pressure, confliction etc. are responsible for stress. Occupational stress has become leading factor of modern life. It has wide-ranging effects on employee's behaviour. He found that about 28% of the problem related to employee health and declining levels of productivity is

related to occupational stress. Controlling occupational stress in the coming time would be part of banking policy of the organizations and be seen as a better target to the bank employee satisfaction.

OBJECTIVES

The following objectives are framed to study about the stress faced by female public sector bank employees during demonetization in Tamil Nadu:

1. To find out the types of stress faced by the female bank employees in Tamil Nadu during demonetization.
2. To study the causes of stress among women bank employee during demonetization
3. To identify the stress management programmes adopted by the female bank employees during demonetization.

STATEMENT OF THE PROBLEM

Workplace stress is not good in terms of physical and emotional response that occurs as there is a poor match between the demand from jobs and the capabilities, resources, or needs of the employees. During demonetization period, the stress was more among the bank employees especially among the female bank employees. Banks are the most stressed work place during the demonetization. Hence the study is done to find out the types of stress faced by the female bank employees and what strategies were adopted to come out of the stress.

Despite of the advent of modern technology and innovations in the banking sector during demonetization period, bank employees are feeling overloaded with work and stressed out. Hence, an attempt has been made to study the causes and effects of stress amongst female bank employees and how they managed the stress.

RESEARCH AND METHODOLOGY

Research design: The study of research is descriptive in nature.

Sample design: Population of female bank employees is 210 in Vellore, Thiruvallur and Chennai districts and 50 employees have been chosen for the study using convenience sampling method.

Data collection: The primary data were collected through questionnaire and also by conducting personal interviews and secondary data was collected from research papers, articles, journals etc.

EFFECT OF STRESS

Stress is a state of mental or emotional strain or tension caused from adverse or demanding situations. Also it is referred to the strain seem the tussle between the external environment and the employees, leading to emotional and physical pressure. Stress is a widespread and costly problem in today’s workplace. Excessive stress proves to be harmful for an individual in any field. It ultimately leads to health problems and loss of productivity. It also leads to absenteeism, dodging work responsibilities, coming late to office, leaving early, etc.,

The other effects are loss of productivity, increase in employee turnover, more of error prone work, memory loss, cribbing, various psychological and psychometric problems, over-reacting, arguing, getting irritated, frustration, suicides, deteriorating health, more of accidents. Eating disorders, excessive smoking and drinking, insomnias, depression, improper work, delay in completion of job etc. are the outcomes of stress.

Stress experienced by one employee can affect the confidence of other employees also. Productivity is directly related with the health of an employee in any organisation. Healthier an employee, higher is the productivity and vice-versa. Workplace stress has a significant impact on performance, employees’ wellbeing and overall performance of an organization.

STRESSORS

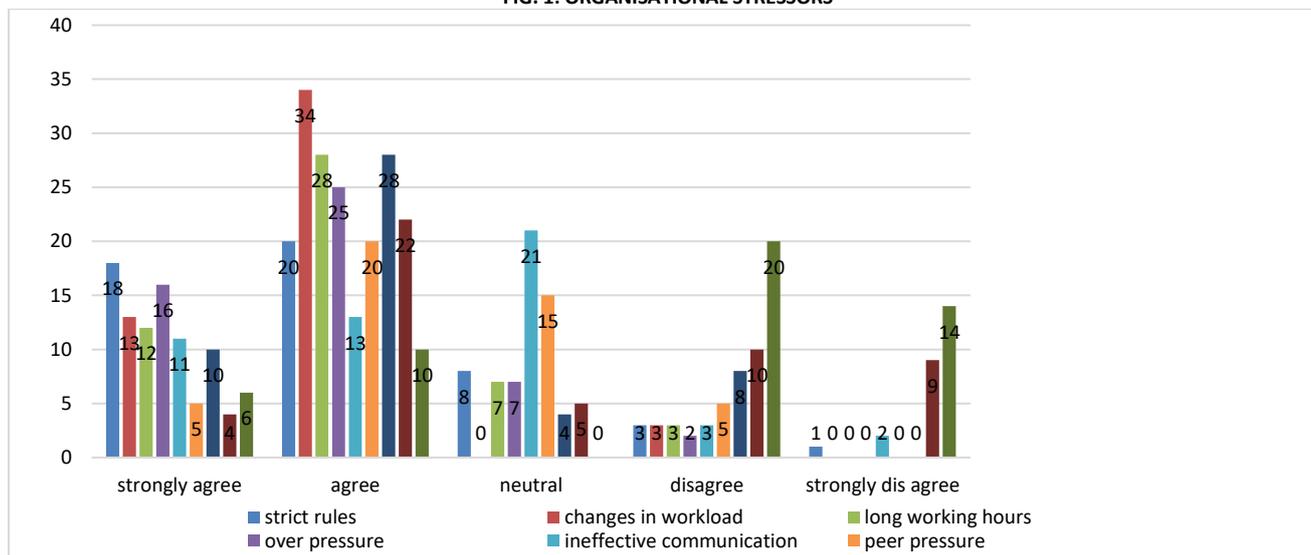
Stress can be either positive or negative. Some level of stress will help to increase the individual’s performance while excessive stress can lead to a decreased performance. Stress is a term of psychological or physiologic pressure felt by a common man and it refers to the strain leading emotional and physical pressure. Work place stress is more harmful to the employees that may lead to poor work performance. Such kinds of stress can affect various biological reactions which end up in cardiac arrest. There are various types of stress which affects among bank employees like strict rules and regulation, changes in workload, long working hours, technological problem, over pressure, changes in profile, impatient, aggressive, rigid, lack of rewards, family issues, lack of confidentiality, crowding, insecure environment, changes in government policy, changes in economic policy and regulation by RBI.

These kinds of stressors can be divided in four categories. They are explained in the following paragraphs.

TYPES OF STRESSORS

1. **Organisational stressors-** Organizational stressors are usually related to the workers’ role in the organization. They are strict rules and regulations, changes in workload, long working hours, and technological problems, over pressure, peer pressure, role conflict, ineffective communication and lack of participation as found from the literature. The employees were asked about their opinion on these stressors and their responses were collected and given in the chart form.

FIG. 1: ORGANISATIONAL STRESSORS

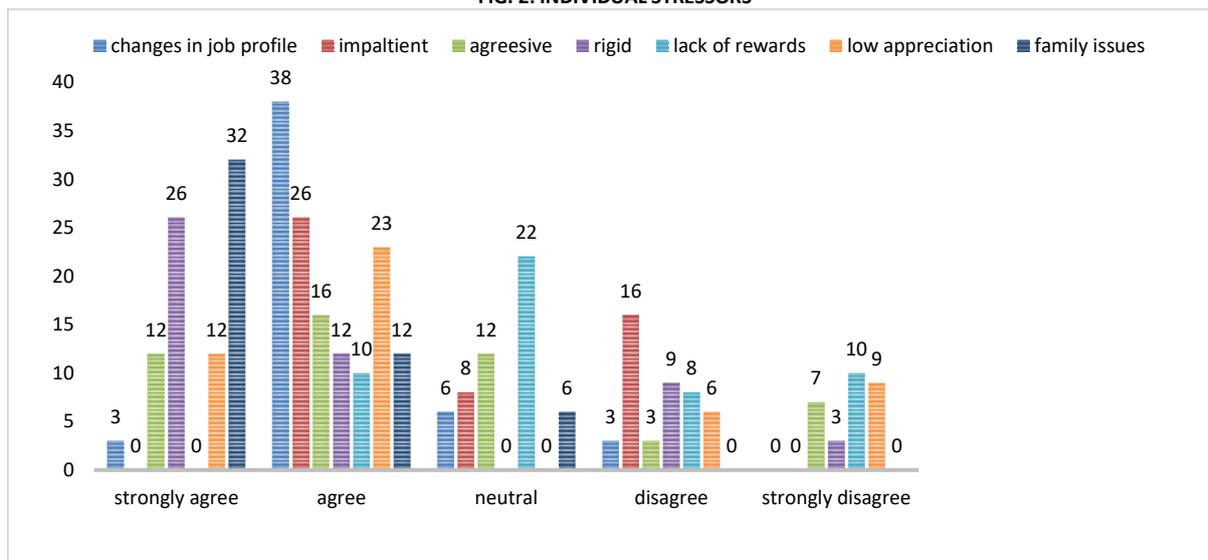


Source: Primary data

The above chart shows that the main organisational stressor for the female bank employees is the unexpected changes in the workload. It means that every day the workload will be changing without prior information to the employees. The ineffective communication was the least one as agreed by the respondents, which means that there was an effective communication among the bank employees during the demonetization period.

2. Individual stressors - An individual stressor is any event, experience, or environmental stimulus that causes stress in an individual. These events or experience are perceived as threats or challenges to the individual and can be either physical or psychological. These stressors are changes in job profile, Impatience, Aggressive, Rigid, Lack of rewards, Low appreciation, family issues as found from the literature. Hence, the same was tested with the bank employees in Tamil Nadu and the results are analysed and given below in the chart.

FIG. 2: INDIVIDUAL STRESSORS

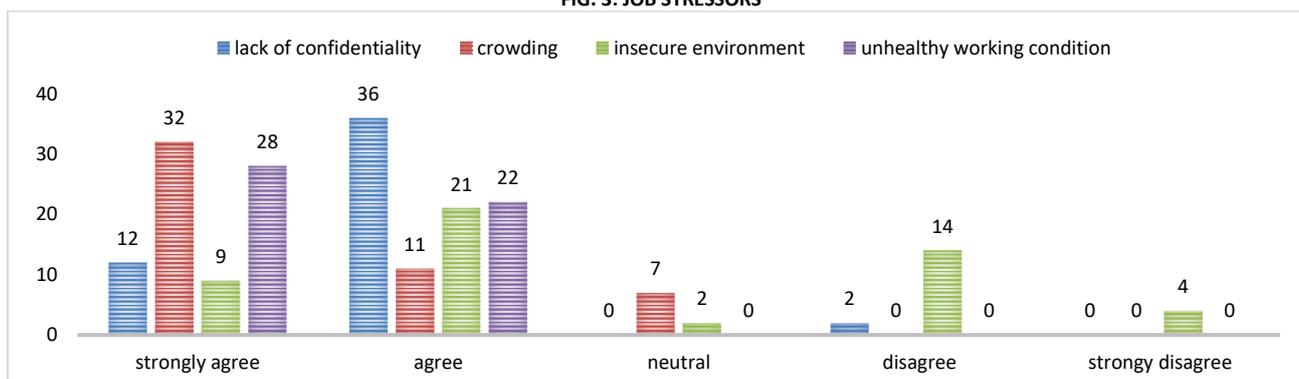


Source: Primary data

The above chart shows that the main individual stressor for female bank employees is unexpected changes in job profile which affects them more. The lack of rewards is the least one which is agreed by the female employees as they didn't expect the rewards during demonetization.

3. Job stressors - Job stress can be defined as the harmful physical and emotional responses that occur when the requirement of the job do not match the capabilities. They are lack of confidentiality, crowding, insecure environment, and unhealthy condition as found from the literature. Hence the same was tested with female bank employees and the result was analysed in the below chart.

FIG. 3: JOB STRESSORS

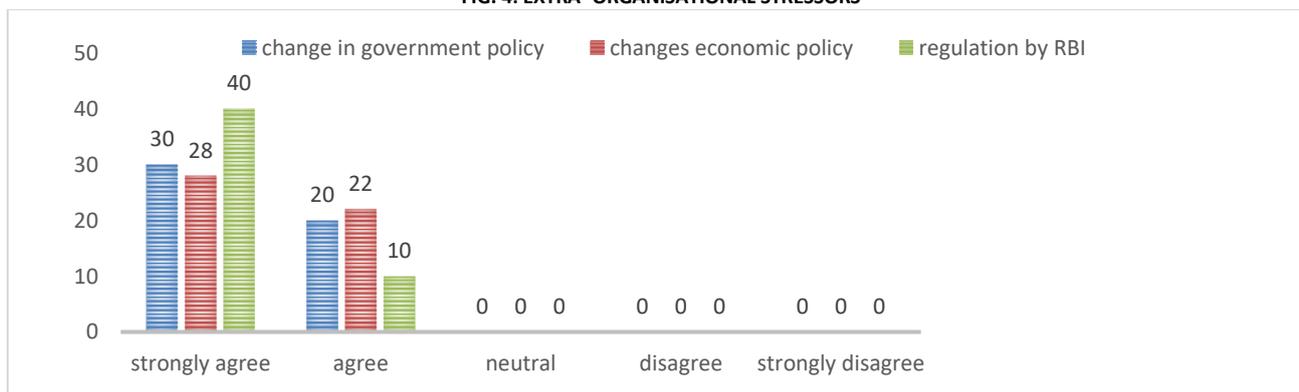


Source: Primary data

The above chart shows that main job stressor for female bank employees is the lack of confidentiality which is 36% as the customers had lost their confidence during demonetization. The insecure environment is the least one agreed by the respondents that means the female bank employees felt very secured in their work place in the time of demonetization.

4. Extra-Organization stressors-Extra organizational stressors refer to the factors that are more personal to individual. They are changes in government, changes in economic policy and Regulation by RBI which are found from the literature. Hence the same was asked to female bank employees in Tamil Nadu and the result was analysed as below.

FIG. 4: EXTRA- ORGANISATIONAL STRESSORS



Source: Primary data

The above chart shows that the main extra-organizational stressor for female bank employees in the State is the regulations imposed by RBI, and the changes in economic policy is not a stress for the female bank employees.

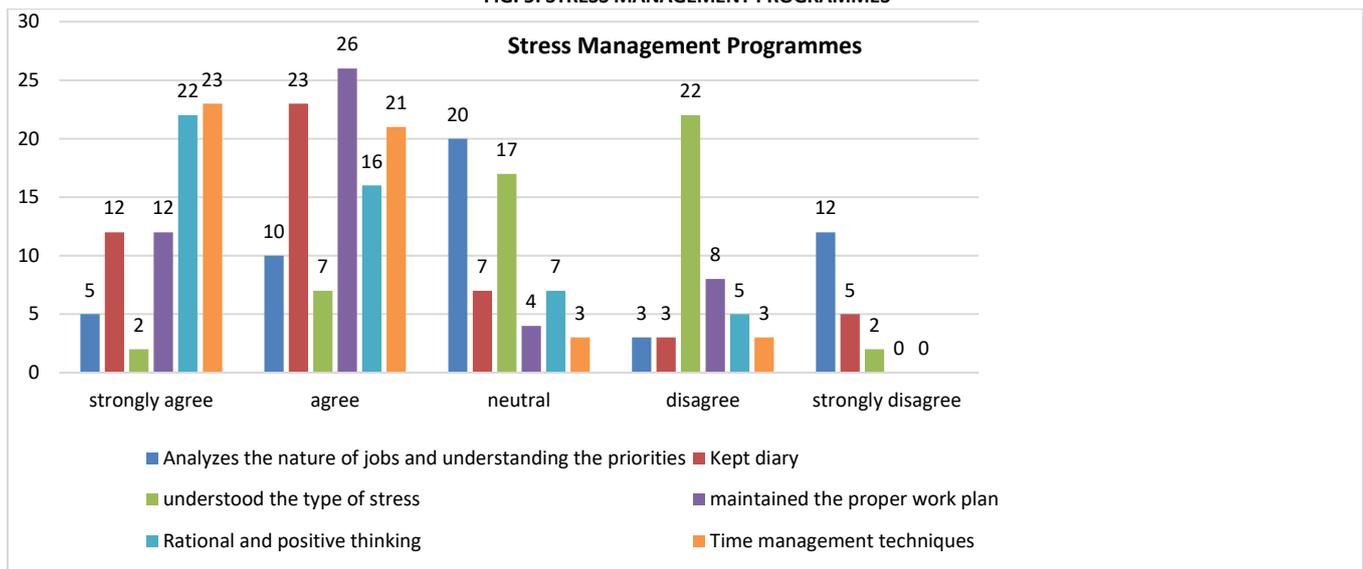
STRESS MANAGEMENT PROGRAMMES

Banks are amongst the top ten stressed workplaces in India during demonetization. To increase the productivity and efficiency of the country, banks have come forward with a number of solutions. With the increasing problem of stress, stress management has become very important in the banking sector. Stress Management refers to the varied range of techniques and psychotherapies that can prevent and control an individual’s level of stress. Thereby, it will lead to improve the everyday functioning of an individual. Stress management can have any of the three ways and solutions – a) prevent or control, b) escape from it, or c) learn to adapt to it. As it is said that prevention is better than cure, steps should be taken at the initial stage to prevent the stressors rather than curing as its harmful effects or bearing heavy costs are big after being affected by it.

Effective stress management can be done at the individual level as well as at the organizational level in various ways. Stress management can be divided into two phases: the first step is coping with stress and the second phase is facing the stress with the help of relaxation techniques such as meditation. Some techniques are used by the female bank employees as found from the study.

Stress management means trying to overcome from the particular tension or pressure. Some of them used yoga or meditation to overcome their stress whereas some of them relied on their hobbies to manage their stress. However these methods will not reduce the total amount stress, it can only help them to minimize the stress. It was found that the female employees made use of three most effective methods to control their stress. 26% of female bank employees managed their stress by maintaining a proper work plan. 23% of female bank employees managed by keeping diaries which had list of events that could cause stress. And 21% of female bank employees used proper time management techniques to reduce stress. Remaining 30% used other techniques like analysing the nature of job, understanding the type of stress and rational positive thinking to manage their stress. However these methods were found less effective than the others.

FIG. 5: STRESS MANAGEMENT PROGRAMMES



Source: Primary data

Stress Management Programmes if implemented carefully can help in minimizing stress in the banks and overcoming all the obstacles in the growth of banking industry. Apart from psychological well-being and health of the employees, proper work plan which was followed by the female bank employees during demonetisation period is followed every day, the banking industry would make more revenue as well as contribute more in the coming future.

SUGGESTIONS

Stress in banking sector is mostly due to over work pressure and imbalanced work life. An individual can be made constructive when the stress is properly identified and well managed. The productivity is dependent on the psychosocial wellbeing of the bank employees. In an age of highly dynamic and competitive world, human is exposed to all kinds of stressors that can affect his/her life. When the female bank employees have broader perspective of life will definitely change the perception of stress. The stress can be minimized if the banking sector takes the right steps like maintaining proper work plan, keeping diaries and managing the time properly in future.

CONCLUSION

The efficiency of the workforce is the most decisive factor in the growth of any organisation. The efficiency of a workforce is interdependent with the proper planning by the employees. The reason for stress is giving more importance to work and less importance to health and family. Stress, in the present scenario has become a deep rooted evil which needs to be uprooted as the pressure was gone with the demonetization period. Stress itself is a problem which will give birth to a number of problems. There is an awful prerequisite of stress management programmes to relief stress and to reduce its harmful effects in the workplace. This study is an effort to study the contribution of Stress Management Programmes due to increasing dangers of stress under which it becomes difficult for an employee to work. Through various studies, it has been found that the firms which have adopted various stress management strategies have gained a good edge over other firms as the employees can work more proficiently. These days Stress Management Programmes had proved to be an integral part of banking industry.

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THE CONTENTS OF WOMEN EMPOWERMENT IN SOLAPITH CRAFT PRODUCT: A CASE STUDY OF DHUBRI DISTRICT

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ABSTRACT

This paper is mainly focus on the women empowerment in the production of a specific product. Their skills and hard labour which extract the sola plant to a solapith product. They play a vital role in the production of solapith products vary from the cultivation to the finished product. This is a traditional product, which is being practiced by traditional artisans of a particular community (Malakar) in some villages in Dhubri district. As a traditional craft, skilled handed over from generation to generating.

KEYWORDS

artisans, craft product, sholapith and traditional.

INTRODUCTION

Solapith or Sola pith or Kuhila (also referred to as shoal and Indian crock) is derived milky –white & spongy plant matter which can be pressed and shaped into delicate and beautiful object of art.

Sola grows wild in marshy water logged area. the biological name of shoal is *Aeschynomene India* or *Aeschynomene* as per a (bean family). It is a harbours plant, which grows particularly in the marshy areas of Bengal, Assam, Orrisa and Dhaka. The Solapith is the cortex of core of the plant and these inner softy milky –white and spongy materials are almost similar to “thermocool” Sholapith is much superior to thermocol in terms of malleability texture, lustre and sponginess and is preferred by the artisans.

The use and practice of solapith craft is very ancient, it cannot be said specifically as to when this craft was first given as artistic form and used. It is believed that solapith craft came into being as soon as idol worship was introduced in Hindu religion and culture, initially this craft was in practice only in Vedic ritual works But, gradually with the passage of time this craft had developed a lot and has been accepted as multi-religious craft still its utility is most significant in Hindu religious.

OBJECTIVES OF THE STUDY

The present study in a design to fulfill the following objectives:

1. Role of women in the production process
2. Observe the nature and origin of solapith craft.
3. Study the manufacturing process of the solapith craft.

METHOD

The study is empirical in nature, which was undertaken based on primary data collected through a field survey. A well-structured schedule is prepared to collect information from the respondents. However, the schedule is finalised after a pilot survey. The information collected through the respondent’s schedule were supplemented by the information collected through Focus Group Discussion.

A multi-stage random sampling technique were followed while selecting sample craft man families. In the first stage three circles namely Agomoni, Galakganj Dharamsala of Dhubri district have been selected considering popularity of solapith crafts. In the second stage, three villages from Angomoni block and one village from each of Galakganj and Dharamsala blocks have been selected randomly. Finally, 100 respondents were chosen randomly from the sample villages.

TABLE 1

1 Overall research design:	Empirical and Analytical
2 Sources of Data	i. Primary data ii. Secondary data (limited extent)
3 Sampling method	Multistage random sampling
4 Population	Comprising of all the crafts workers belonging to Dhubri district
5 Sample Size	100
6 Tools of data collection	i. Schedule ii. FGD Method

WOMEN ROLES AND STAGES FOR PRODUCTION

1. **Cultivation-** The first steps for the production is raw materials which have to cultivate and it grows in the low and marshy areas. Women play a vital role in cultivation from sowing to reaping. It is sowed in between January and March and gradually increases to a height of 1½ feet. As soon as the first splash of rain comes, the plants start growing very fast. Finally, the plants reach the height of 7 feet at maturity and are ready to be cut. These grow up into matured one within five or six months. Usually the artisans collect the Sola from the field from the end of September to the middle of October.
2. **Drying-** After collecting the required shola from the field, second stage arise i.e. drying the shola, they leave the plants in sun and air to dry them completely for more than 10 to 12 days. Then occurs the removal of bark so that the spongy fiber can be extracted, the sizing splitting carving happens sequentially.
3. **Cutting and Pictorial form-** In this stage men and women simultaneously help each other to transform the shola into a product form with the help of various indigenous knives and scissors. The products are of different size, shapes and design according to the demand of that particular locality. The artisans exhibit their cultural and tradition through the artistic form of this craft.
4. **Colour and Gum-** For manufacturing the product both colour and gum is very essential. The original colour of the shola is white so it is required to be coloured for the finished and attractive product. They use both handmade colour like ‘Bel’ (Palm like fruit), turmeric, limestone, ‘Haritaki’ (*Jerminelia Chebula*), Katgwa (a kind of betel nut) as well as artificial colour. Gum was made by mixing powdered tamarind seed with ordinary fern namely ‘Dhekia’ Now-a-days the artisans use maida and barli to make the adhesive. But ‘Fevicol’ is also in use now.

All the natural process for the production is used just because of the socio-economic condition of the society is poor as well as to reduce the price of the product.

RESULTS AND DISCUSSION

There are certain specific places in Dhubri district where Solapith Craft work is done permanently as a hereditary and traditional profession for a long time. Since this traditional art and crafty work was started during the reign of the Jamindars the craftsmen who are called Malakars or Mail were patronised by them and settled in those places permanently. These places are all in rural areas and concentrated in the western most part of this district. Here women play a vital role for the production from the very first stage of production to the last one. On the other hand, men role also cannot be neglected they mainly focus on crafting and marketing. In this paper, it is completely clear that not only the educated women can be self-sustain but the uneducated can also be self-sustain from their hard labour and skills.

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CONSUMERS PERSPECTIVE TOWARDS SOLAR PANEL PRODUCTS

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ABSTRACT

Energy utilization cannot be forgetting in our life. But there is always gap between demand and supply. Due to the increasing energy demand and less availability of energy sources, society needs to find out the alternate source of energy, which should be clean and green, in this way we have abundantly consecrated with solar energy. Solar is the only source can satisfy energy need of the nation. Solar energy can be used for several applications such as lighting, heating and cooling etc., Hence the study creates awareness to use the solar panel products in day to day life.

KEYWORDS

heating, lighting, solar energy.

INTRODUCTION

Energy consumption can never be marginalized in day to day lifecycle. Our energy needs are rising as a result of continued population increases, economic growth, and individual fuel/energy consumption. Solar energy is a natural resource, which has radiant light and heat energy from the sun. Out of all energy released by sun only a small fraction of energy is absorbed by the earth. Just this tiny portion of the sun's energy that hits the earth is enough to meet all our power needs. The use of solar panels or photovoltaic cell is the most communal way to obtain the much-needed solar energy. They are very efficient in producing a clean and renewable source of electricity. Although solar energy is widely known but it is not widely used today, solar energy has a great prospective to be used in future. So this conception required more research then only we can educate the people to use the solar energy in their day to day lifespan.

IMPORTANCE OF THE STUDY

Solar will become a crucial component of India's energy portfolio in the next decade-perhaps more so than it is in most other countries. We believe a solar market can develop fairly quickly-going from nothing to several billion-dollar solar-centric firms within a decade.

REVIEW OF LITERATURE

According to **IEA 2010**, between the periods 2000 to 2011, solar PV was the fastest-growing renewable power technology worldwide. The cumulative installed capacity of solar PV reached roughly 65 gigawatts at the end of 2011. This number has increased immensely from only 1.5 GW in 2000. In the year 2011, Germany and Italy accounted for over half the global cumulative capacity, followed by Japan, Spain, the United States and China.

Seth and Obed 2011, in their energy sector presentation indicated that electricity generation in Ghana is concentrated on hydropower with over 60% contribution whilst the rest emanated from thermal and other sources of renewable energy. The Government of the Republic of Ghana in achieving its goal on universal access to electricity in all areas in Ghana by the year 2020 has instituted certain policies with the mandate of increasing the usage of renewable energy in the country's energy mix.

OBJECTIVE OF THE STUDY

To study the buying behaviour among the selected sample towards Solar panel products.

METHODOLOGY

This study employs simple random sampling, a type of probability sampling, which involves the probability of each and every item has a chance to participate in the study. Through this probability sample, the final sample is drawn from the respondents who have intention to purchase solar panel products. A survey was conducted among consumers through self-administered questionnaires.

STATISTICAL TOOLS USED

1. Simple percentage analysis
2. Factor Analysis
3. One-Way ANOVA

ANALYSIS AND INTERPRETATION**SOCIO-ECONOMIC PROFILE OF THE RESPONDENTS**

The profile of the respondents towards purchase of solar products include duration of years living in the current home, External infrastructure, Gender, Age, type of home.

TABLE 1: DURATION OF YEARS LIVING IN THE CURRENT HOME

Duration of Years	Frequency	Percent
0-4 years	430	48.3
5-9 years	220	24.7
10-14 years	128	14.4
More than 20 years	112	12.6
Total	890	100.0

Table 1 explains about the respondents stay in the current home. It can be inferred that 48.3 percent of the respondents stay in the same house for 0-4 years of duration, 24.7 percent of the respondents stay in the current home for 5 – 9 years of duration, 14.4 percent of the respondents stay in the same home for 10-14 years of duration and 12.6 percent of the respondents stay in the current home for more than 20 years of duration.

TABLE 2: EXTERNAL INFRASTRUCTURE MATERIAL

External Infrastructure material	Frequency	Percent
Brick	231	26.0
Weather Band	135	15.2
Stone/Masong	133	14.9
Timber	391	43.9
Total	890	100.0

From the table 2, it can be inferred that 43.9 percent of the home’s external infrastructure is made up of timber, 26.0 percent of the home’s external infrastructure is made up of bricks, 15.2 percent of the home’s external infrastructure is made up of weather band and 14.9 percent of the home’s external infrastructure is made up of Stone / Masong.

TABLE 3: GENDER

Gender	Frequency	Percent
Male	401	45.1
Female	489	54.9
Total	890	100.0

Table 3 explains the gender of the respondents participated in the study. From the table, it can be inferred that 54.9 percent of the respondents were female and 45.1 percent of the respondents were male.

TABLE 4: AGE OF THE RESPONDENTS

Age of the respondents	Frequency	Percent
18-24 years	151	17.0
25-34 years	332	37.3
35-44 years	137	15.4
45-54 years	81	9.1
55-64 years	189	21.2
Total	890	100.0

Table 4 explains the age of the respondents. From the table it can be inferred that 37.3 percent of the respondents belongs to 25-34 years of age, 21.2 percent of the respondents belongs to 55-64 years of age, 17.0 percent of the respondents belongs to 18-24 years of age, 15.4 percent of the respondents belongs to 35-44 years of age and 9.1 percent of the respondents belongs to 45-54 years of age.

TABLE 5: TYPE OF HOME

Type of home	Frequency	Percent
Currently being paid off	401	45.1
Fully owned	489	54.9
Total	890	100.0

From the table 5 it can be inferred that 54.9 percent of the respondents stay in the fully owned home and 45.1 percent of the respondents stay in currently paid off home.

FACTOR ANALYSIS

A sample of 890 respondents was taken for the study to study about the purchase intention of respondents towards purchase of solar panel products. The data collected for the study were classified, tabulated and processed for factor analysis which is the most appropriate multivariate technique to identify the group of determinants. Factor analysis identifies common dimensions of factors from the observed variables that link together the seemingly unrelated variables and provides insight into the underlying structure of the data. In this study Principal component Analysis has been used since the objective is to summarize most of the original information in a minimum number of factors for prediction purpose.

A Principal Component Analysis is a factor model in which the factors are based on the total variance. Another concept in factor analysis is the rotation of factors. Varimax rotations are one of the most popular methods used in the study of simplify the factor structure by maximizing the variance of a column of pattern matrix. Another technique called latent root criteria is used. An Eigen Value is the column sum of squares for a factor. It represents the amount of variance in data. After determination of the common factors, factor scores are estimated for each factor. The common factors themselves are expressed as linear combinations of the observed variables.

Factor Model : $F_i = W_{i1}X_1 + W_{i2}X_2 + \dots + W_{ik}X_k$

Where

F_i = Estimate of the i th factor, W_1 = Weight or Factor score coefficient

k = Number of variables.

The respondent considers various factors while deciding about savings. Twenty one factors are considered for measuring on a five point scale. Factor matrix and their corresponding factor loading after the Varimax rotation are presented in the table.

TABLE 6: KMO AND BARTLETT'S TEST

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.782
Bartlett's Test of Sphericity	Approx. Chi-Square	7990.769
	df	210
	Sig.	0.000

TABLE 7: COMMUNALITIES

Variables	Initial	Extraction
I intend to purchase solar panels because of my environmental concerns	1.000	.365
I intend to purchase solar panels because of the financial benefits it will return	1.000	.267
Solar panels are an environmentally friendly energy source, therefore intend to purchase them in the future	1.000	.354
Current government subsidies will encourage me to purchase solar panels	1.000	.391
I intend to purchase solar panels as an alternative source of energy	1.000	.327
Solar must be less expensive than power from a utility (lower price)	1.000	.293
Solar must provide better features or functionality than power from a utility (greater benefits)	1.000	.385
Solar must not have any switching or adoptions cost (easy to use)	1.000	.298
Solar must be readily available (easy to buy)	1.000	.406
Solar appliances cannot compete with electrical appliances	1.000	.495
Solar appliances cannot be used through out the year	1.000	.510
Solar appliances saves electricity consumption	1.000	.523
Solar appliances are very suitable for Indian climate conditions	1.000	.366
Solar products are reliable	1.000	.300
Solar products are very easy to use	1.000	.405
Solar products are very close to nature	1.000	.482
Solar products are very environment friendly	1.000	.515
I would like to buy a solar appliance of my own.	1.000	.455
I believe that a well-known brand is always safe to buy	1.000	.474
I believe that the quality of environmentally safe product is not as good as other products	1.000	.337
I believe that the price of environmental safe product is usually more than	1.000	.216

Extraction Method: Principal Component Analysis.

In Table Bartlett’s test of sphericity and KAISER MEYER OLKIN measures of sample adequacy were used to test the appropriateness of the factor model. Bartlett’s test was used to test the null hypothesis that the variables of this study are not correlated. Since the approximate chi-square satisfaction is 7990.769 which is significant at 1% level, the test leads to the rejection of the null hypothesis.

The value of KMO statistics (0.782) was also large and it revealed that factor analysis might be considered as an appropriate technique for analysing the correlation matrix. The communality table showed the initial and extraction values.

TABLE 8: TOTAL VARIANCE EXPLAINED

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.724	27.257	27.257	5.724	27.257	27.257	4.435	21.121	21.121
2	2.440	11.618	38.875	2.440	11.618	38.875	3.728	17.754	38.875
3	1.901	9.053	47.928						
4	1.584	7.541	55.469						
5	1.244	5.923	61.392						
6	1.158	5.514	66.906						
7	.920	4.379	71.285						
8	.804	3.829	75.115						
9	.770	3.669	78.784						
10	.642	3.059	81.843						
11	.547	2.604	84.446						
12	.470	2.238	86.684						
13	.439	2.093	88.776						
14	.400	1.904	90.680						
15	.387	1.845	92.525						
16	.323	1.539	94.064						
17	.300	1.427	95.491						
18	.273	1.302	96.793						
19	.246	1.170	97.964						
20	.220	1.050	99.014						
21	.207	.986	100.000						

Extraction Method: Principal Component Analysis.

From the table it was observed that the labelled “Initial Eigen Values” gives the EIGEN values. The EIGEN Value for a factor indicates the ‘Total Variance’ attributed to the factor. From the extraction sum of squared loadings, it was learnt that the I factor accounted for the variance of 5.724 which was 27.257%, the II factor accounted for the variance of 2.440 which was 11.618%. The two components extracted accounted for the total cumulative variance of 38.875%

DETERMINATION OF FACTORS BASED ON EIGEN VALUES

In this approach only factors with Eigen values greater than 1.00 are retained and the other factors are not included in this model. The two components possessing the Eigen values which were greater than 1.0 were taken as the components extracted.

TABLE 9: COMPONENT MATRIX^a

Description of variables	Component	
	1	2
Current government subsidies will encourage me to purchase solar panels	.612	
Solar panels are an environmentally friendly energy source, therefore intend to purchase them in the future	.590	
Solar appliances saves electricity consumption	.584	
Solar appliances are very suitable for Indian climate conditions	.577	
I intend to purchase solar panels as an alternative source of energy	.569	
Solar must provide better features or functionality than power from a utility (greater benefits)	.566	
I intend to purchase solar panels because of my environmental concerns	.547	
Solar products are reliable	.544	
Solar must be less expensive than power from a utility (lower price)	.526	
Solar appliances cannot be used through out the year	.522	
Solar appliances cannot compete with electrical appliances	.518	
I intend to purchase solar panels because of the financial benefits it will return	.517	
I believe that the quality of environmentally safe product is not as good as other products	.517	
I believe that a well-known brand is always safe to buy	.511	
Solar must be readily available (easy to buy)	.506	
I would like to buy a solar appliance of my own.	.501	
Solar must not have any switching or adoptions cost (easy to use)	.746	
I believe that the price of environmental safe product is usually more than	.831	
Solar products are very close to nature		.547
Solar products are very environment friendly		.536
Solar products are very easy to use		.503
Extraction Method: Principal Component Analysis. a. 2 components extracted.		

TABLE 10: ROTATED COMPONENT MATRIX^a

Description of variables	Component	
	1	2
Solar appliances saves electricity consumption	.722	
Solar appliances cannot be used throughout the year	.712	
Solar appliances cannot compete with electrical appliances	.702	
Solar must be readily available (easy to buy)	.637	
Solar must provide better features or functionality than power from a utility (greater benefits)	.601	
Solar appliances are very suitable for Indian climate conditions	.564	
Current government subsidies will encourage me to purchase solar panels	.557	
Solar must not have any switching or adoptions cost (easy to use)	.537	
Solar panels are an environmentally friendly energy source, therefore intend to purchase them in the future	.510	
Solar must be less expensive than power from a utility (lower price)	.712	
I intend to purchase solar panels as an alternative source of energy	.832	
I intend to purchase solar panels because of the financial benefits it will return	.748	
Solar products are very environment friendly		.717
Solar products are very close to nature		.694
I believe that a well-known brand is always safe to buy		.680
I would like to buy a solar appliance of my own.		.666
Solar products are very easy to use		.637
I intend to purchase solar panels because of my environmental concerns		.542
I believe that the quality of environmentally safe product is not as good as other products		.530
I believe that the price of environmental safe product is usually more than	.545	
Solar products are reliable	.685	
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. a. Rotation converged in 3 iterations.		

The rotated component matrix shown in Table is a result of VARIMAX procedure of factor rotation. Interpretation is facilitated by identifying the variables that have large loadings on the same factor. Hence, those factors with high factor loadings in each component were selected. The selected factors were shown in the table.

Table 11: CLUSTERING OF INDUCING VARIABLES INTO FACTORS

Factor	Inducing Variable	Rotated factor loadings
I (21.121) Complex buying behaviour	I intend to purchase solar panels as an alternative source of energy PI5	0.832
	I intend to purchase solar panels because of the financial benefits it will return PI2	0.748
	Solar appliances saves electricity consumption BI3	0.722
	Solar products are very environment friendly BI8	0.717
	Solar must be less expensive than power from a utility (lower price) E1	0.712
	Solar appliances cannot be used through out the year BI2	0.712
	Solar appliances cannot compete with electrical appliances BI1	0.702
	Solar products are very close to nature BI7	0.694
	Solar products are reliable BI5	0.685
	I believe that a well-known brand is always safe to buy BI10	0.680
II(38.875) Dissonance reducing buying behaviour	I would like to buy a solar appliance of my own. BI9	0.666
	Solar products are very easy to use BI6	0.637
	Solar must be readily available (easy to buy) E4	0.637
	Solar must provide better features or functionality than power from a utility (greater benefits) E2	0.601
	Solar appliances are very suitable for Indian climate conditions BI4	0.564
	Current government subsidies will encourage me to purchase solar panels PI4	0.557
	Solar must not have any switching or adoptions cost (easy to use) E3	0.537
	I intend to purchase solar panels because of my environmental concerns PI1	0.542
	I believe that the quality of environmentally safe product is not as good as other products BI11	0.530
	Solar panels are an environmentally friendly energy source, therefore intend to purchase them in the future PI3	0.510
I believe that the price of environmental safe product is usually more than BI12	0.545	

In this table two factors were identified as being maximum percentage variance accounted. The variable PI5, PI2, BI3, BI8, E1, BI2, BI1, BI7, BI5, BI10 and BI9 constitutes factor I and it accounts for 21.121 per cent of the total variance. The variable BI6, E4, E2, BI4, PI4, E3, PI1, BI11, PI3 and BI12 constitutes factor II and it accounts for 38.875 per cent of the total variance.

RANKING OF PURCHASE INTENTION FACTORS

Using factor analysis, the twenty-one purchase intention variables are grouped into two factors namely, “Complex buying behaviour”, and “Dissonance reducing buying behaviour”. Mean values assigned to each of the two purchasing intention factors are portrayed in Table 12.

TABLE 12: STRENGTH OF PURCHASE INTENTION FACTORS

Purchase Intention Factors	Mean	Rank
Dissonance reducing buying behaviour	3.5033	I
Complex Buying Behaviour	3.4035	II

It can be inferred from the above table that the mean value in respect of Dissonance reducing buying behaviour factor is the highest. This implies that this group is found to be the most dominant factor among purchase Intention factors.

ANALYSIS OF VARIANCE

H0: There is no significant difference between Purchase intention and tenure of living.

H1: There is significant difference between Purchase intention and tenure of living.

TABLE 13: ANOVA

Source of variance		Sum of Squares	df	Mean Square	F	Sig.
Complex buying behaviour	Between Groups	9.455	3	3.152	6.997	.000*
	Within Groups	399.067	886	.450		
	Total	408.521	889			
Dissonance reducing buying behaviour	Between Groups	8.294	3	2.765	6.585	.000*
	Within Groups	372.006	886	.420		
	Total	380.301	889			

Source: Primary data

* Significant at 5 percent level of significance

The above table indicates that Purchase intention do not have significant differences across tenure of living. Hence, the null hypothesis is rejected and it is concluded that there is significant difference between purchase intention factors and tenure of living.

H0: There is no significant difference between Purchase intention and type of external infrastructure.

H1: There is significant difference between Purchase intention and type of external infrastructure.

TABLE 14: ANOVA

Source of variance		Sum of Squares	df	Mean Square	F	Sig.
Complex buying behaviour	Between Groups	1198.046	3	399.349	7.336	.000*
	Within Groups	48233.055	886	54.439		
	Total	49431.101	889			
Dissonance reducing buying behaviour	Between Groups	240.062	3	80.021	1.876	.132
	Within Groups	37789.993	886	42.652		
	Total	38030.055	889			

Source: Primary data

* Significant at 5 percent level of significance

The above table indicates that Purchase intention factor – ‘Complex buying behaviour’ do not have significant differences across type of external infrastructure. Hence, the null hypothesis is rejected with respect to Complex buying behaviour factor and the alternative hypothesis (H1) is rejected for ‘Dissonance reducing buying behaviour’ factor.

H0: There is no significant difference between Purchase intention and gender of household.

H1: There is no significant difference between Purchase intention and gender of household.

TABLE 15: ANOVA

Source of variance		Sum of Squares	df	Mean Square	F	Sig.
Complex buying behaviour	Between Groups	122.493	1	122.493	2.206	.138
	Within Groups	49308.608	888	55.528		
	Total	49431.101	889			
Dissonance reducing buying behaviour	Between Groups	32.844	1	32.844	.768	.381
	Within Groups	37997.211	888	42.790		
	Total	38030.055	889			

Source: Primary data

* Significant at 5 percent level of significance

The above table indicates that Purchase intention factors have significant differences across gender of household. Hence, the null hypothesis is accepted with respect to purchase intention factors and the alternative hypothesis (H1) is accepted for all purchase intention factors.

H0: There is no significant difference between Purchase intention and Current age.

H1: There is no significant difference between Purchase intention and Current age.

TABLE 16: ANOVA

Source of variance		Sum of Squares	df	Mean Square	F	Sig.
Complex buying behaviour	Between Groups	627.514	4	156.879	2.845	.023*
	Within Groups	48803.587	885	55.145		
	Total	49431.101	889			
Dissonance reducing buying behaviour	Between Groups	242.890	4	60.722	1.422	.225
	Within Groups	37787.166	885	42.697		
	Total	38030.055	889			

Source: Primary data

* Significant at 5 percent level of significance

The above table indicates that Purchase intention factor – ‘Complex buying behaviour’ have significant differences across current age. Hence, the null hypothesis is rejected with respect to purchase intention factor – ‘Complex buying behaviour’ and the alternative hypothesis (H1) is rejected for purchase intention factor – ‘Dissonance reducing buying behaviour’.

H0: There is no significant difference between Purchase intention and type of home.

H1: There is significant difference between Purchase intention and type of home.

TABLE 17: ANOVA

Source of variance		Sum of Squares	df	Mean Square	F	Sig.
Complex buying behaviour	Between Groups	122.493	1	122.493	2.206	.138
	Within Groups	49308.608	888	55.528		
	Total	49431.101	889			
Dissonance reducing buying behaviour	Between Groups	32.844	1	32.844	.768	.381
	Within Groups	37997.211	888	42.790		
	Total	38030.055	889			

Source: Primary data

* Significant at 5 percent level of significance

The above table indicates that Purchase intention factors have significant differences across type of home. Hence, the null hypothesis is accepted with respect to purchase intention factors and the alternative hypothesis (H1) is accepted for all purchase intention factors.

CONCLUSION

The demand for solar products by the consumers is due to cost reduction and eco friendliness on the other hand the electricity shut down, and under productivity of solar products has induced the demand for solar products. As the sun is more in the country India, the installation of solar panel and usage of other solar produces reduces the bill towards a greater extent.

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DETERMINANTS OF ENTREPRENEURIAL DECISION-MAKING AMONGST FINAL YEAR STUDENTS IN TERTIARY INSTITUTIONS: A QUALITATIVE STUDY

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ABSTRACT

The study sought to examine whether information-processing strategies influence students' decisions towards setting businesses. A sample of eight students in their final year, offering programs in Management, Accounting, Human Resource and Marketing in a tertiary institution situated in the Ga-East municipality was used for the study. In an interview session with the participants, three main questions on thought processes towards entrepreneurial decisions were asked on the following mental scripts were asked: willingness, arrangement and ability scripts. The findings showed that all three mental scripts influenced students' decision-making on entrepreneurial businesses. Implications of the findings for theory and practice are discussed.

KEYWORDS

Ghana, entrepreneurial cognitions, decision-making, venture creation.

INTRODUCTION

Over the last few decades, much attention has been drawn to the concept of entrepreneurship and the thought processes involved in the setting of entrepreneurial businesses (Al-harrasi, Al-Zadjalik & Al-Salti, 2014; Urban, Siran, Mershan & Herson, 2006). More importantly, This is because the theoretical underpinnings of the heightened global competition, changing demographic structures and technological advancement has made it essential for firms and countries to catch up with the changing environment and to rely on creativeness in order to provide a sustainable competitive development (Halac & Bulut, 2012). Besides the rapid increase in formal unemployment amongst graduates is alarming and steps should be implemented to curb the situation (Jdens, 2015; Turker & Selcuk, 2009).

The concept of entrepreneurship is viewed from different perspectives such as values, needs and traits of people, ability to adapt to competitive markets and the ability to manage businesses whereas information processing strategies are the styles of decision making processes used by individuals to create and implement entrepreneurial business (Al-harrasi et al, 2014; Moriano & Linan, 2010). Additionally, Mitchel Busenitz, Lant, McDougall, Morse & Smith (2002:97) have described entrepreneurial cognitions as "the knowledge structures that people use to make assessments, judgments, or decisions involving opportunity evaluation, venture creation and growth".

In recent times some researchers have investigated the relationship between variables such entrepreneurial education, personal attributes, motivation and setting of entrepreneurial business whilst little attention has been given to the cognitive structures used in making such decisions (Denanyoh et al., 2015; Shinnar, Giacomini & Janssen, 2012; Kegudu, Malami & Gatawa, 2011; Moriano & Linan, 2010; Kirkwood, 2009; Turker & Selcuk, 2008; Urban, 2007). To this end, this work hope to investigate the role of three schemas that is, types of mental frameworks (willingness, ability and arrangement scripts) and the extent to which it influences students' decisions on the setting of entrepreneurial businesses.

LITERATURE REVIEW

THEORY OF REASONED ACTION (TRA)

Theory of Reasoned Action (TRA) is the voluntary control people perform as a result of recognized psychological factors (Fishbein & Ajzen, 1975). This theory assumes that human beings behave in a reasonable manner and judges their actions accordingly. More importantly TRA are grouped into two thus attitudes and subjective norm that acts as a function to a person's intention and that each relevant belief links the behavior to a valued outcome. It is therefore worthy to note that these salient beliefs and evaluated outcomes combine to produce overall positive or negative attitude towards a behavior. Some studies have used TRA to explain entrepreneurial activities through an intention to perform the behavior (Ruiz, Soriano & Codura, 2016; Hikkerova, Ilouga & Sahut, 2016).

FACTORS INFLUENCING ENTREPRENEURIAL BEHAVIOR AND INTENTIONS

A plethora of studies has been done in the discourse of entrepreneurship. These studies ranged from determinants of the entrepreneurial behavior, entrepreneurial education, intentions, decision making (Harris & Gibson, 2008; Krauss, Frese, Friedrich & Unger, 2005; Turker & Selcuk, 2008). More importantly, some studies in Ghana have investigated whether factors such as personality traits and characteristics are related with entrepreneurial intentions and inclinations (Asamani & Opoku Mensah, 2013; Denanyoh, Adjei & Nyamekye, 2015; Yeboah Asuamah, Baffour Awuah & Kumi, 2013).

For instance, Harris and Gibson (2008) investigated four entrepreneurial attitudes amongst students pursuing business related programs at selected universities in the USA. Questionnaires on four scale namely achievement in business; innovation in business; perceived personal control of business outcomes; and perceived self-esteem in business. Additionally students also provided information on the demographic characteristics and past entrepreneurial business experiences. The study reported that the male students had high scores on personal controls and innovation whilst students with family business experience had all the four entrepreneurial attitudes examined. Attitudes towards achievement and self-efficacy towards business was supported.

In a more related study, Krauss et al. (2005) examined the relationship between personality characteristics such as autonomy competitive, achievement, personal initiative and entrepreneurial behavior. Data was collected using interviews and questionnaire with a sample of 74 respondents. It was reported personal attributes such as achievement and personal initiative was useful for increasing performance in small businesses. Additionally, all three personal attributes had a strong relationship with entrepreneurial behavior. The researchers recommended that further studies should examine the influence of culture on the relationship between personality characteristics and entrepreneurial behavior.

Linan and Moraine (2007) also assessed the relationship between personal values and entrepreneurial intentions. A sample of 1467 students was randomly selected from a university for the study. The personal values investigated were openness to change and self-enhancement. The results showed that reported students placed different value priorities on entrepreneurial activities that required special technical skills. However, studying one variable such as personal values and how

it influences entrepreneurial intentions seems to narrow the understanding of the discourse unless the aspect of information processing activities towards entrepreneurial decision-making is also investigated.

Similarly, Turker and Selcuk (2008) examined some context factors on entrepreneurial intentions. The study assessed three support factors namely educational, relational and structural supports. Using a sample of 300 university students, it was reported that all the three support factors signs investigated were openness to change and self-enhancement. The study reported that the students placed different value priorities on different entrepreneurial activities that required technical skills. However, studying only narrows ones understanding on how personal values influence entrepreneurial intentions unless the issue of cultural values is also investigated.

In a more recent study conducted in Ghana, Asamani and Opoku-Mensah (2013) investigated the relationship between entrepreneurial inclination, personal characteristics and study programs of students from a tertiary institution in Cape Coast. Five hundred and twenty students were sampled from the department of Psychology, Biology and Management Studies. It was reported that personality characteristics such as leadership attributes, risk taking, task performance, and achievement attitudes are significantly related to entrepreneurial inclination. Asamani and Opoku-Mensah (2013) recommended that other potential factors related to the discourse should be investigated

Moreover, Denanyoh et al. (2015) investigated the relationship between three types of support: education, community and family on entrepreneurial intentions of students. Two hundred and twenty eight (228) students from polytechnic schools were selected for the study. The study reported that all three factors contributed to students developing their career in entrepreneurial activities. However, the researchers did not focus on the role of information processing strategies used in making entrepreneurial decisions.

Similarly, Opoku Frimpong (2014) investigated the relationship between entrepreneurial education and partnership venture intentions amongst students. Data was collected using both interviews and questionnaires on a sample of 220. The results showed that entrepreneurship education positively impacts on the intentions to form partnership venture. Thus, management of educational institutions and stakeholders should structure their entrepreneurship programs to include partnership venture formation. It was also reported that work experience, continuity of business, scale production and access to funds significantly influence the intentions to form a partnership venture after graduation. In the light of this, prospective entrepreneurs should pay more attention to these variables to consider partnership venture in their entrepreneurial undertakings.

ENTREPRENEURIAL COGNITIONS AND VENTURE CREATION

Accordingly, just as studies have been conducted to investigate the determinants of entrepreneurial intentions and attitudes, some studies have also been conducted on entrepreneurial cognitions. For example, Urban (2008) examined the linkage between cognition cues, motivation in relation to the self-efficacy of an individual when making decisions on venture creation. Data was collected from a sample of 161 entrepreneurs in the businesses and industries. The study reported that the relationship between cognitions, self-efficacy and motivation were modest whilst the relationship between entrepreneurial cognitions and motivation was partially supported.

Finally, Pauli (2014) assessed the influence of self-efficacy and sense breaking of entrepreneurs when developing business opportunities. The study was done in two phases: questionnaires on the study variables were administered to a sample of 35 entrepreneurs after which interviews were conducted on selected entrepreneurs. The study reported that self-efficacy and sense breaking significantly influenced opportunity developments.

Moreover, Karlesky (2015) investigated the factors that influence opportunity identification process in entrepreneurial businesses. The factors were perceptions of entrepreneurs and cognitive processes: analogistic thinking, recombination, and distinction-making decision making about venture creation. The study adopted exploratory sequential mixed design in the form of interviews and questionnaires. The results showed that distinction making was the most predominant process used in decision-making. Additionally, distinction making was significantly related to opportunity identification among both nascent entrepreneurs and managers in existing firms. A follow up study for further clarification showed that distinction-making is positively influenced the opportunities people identify with respect to new innovations in technology and as well as existing ones.

Similarly, Ijdens (2015) assessed the extent to which the cognitive features of an individual influence his preference for entrepreneurial business. The study administered questionnaires to a sample of 759 students were randomly selected and given questionnaires to assess their views. The study reported that demographic characteristics such as one's level of education and knowledge structures towards essential skills needed for decision making on venture creation is vital. This implies that both knowledge structures acquired through education significantly influences entrepreneurial decision-making.

Finally, Karabey (2012) investigated the concept of entrepreneurial cognition styles, entrepreneurial alertness and risk performance. A sample of entrepreneurs, accountants and managers from 42 small and medium business ventures were selected for the study. It was observed that all professional groups included in this study preferred a highly linear thinking style. Additionally, there were no significant group differences across the three cognitive styles: linear, nonlinear, and balanced linear and nonlinear thinking style. Furthermore, it was reported that accountants scored lower than the other groups in evaluation and judgment dimension of entrepreneurial alertness. Also it was observed that entrepreneurs, managers were significantly different on risk performance. While entrepreneurs risk performance, tend to be higher than expected, accountants risk preference found to be lower than expected.

In the light of the studies reviewed, the authors raised three questions, which are stated below

RESEARCH QUESTIONS

- To what extent do relationships and contacts with people help in accessing resources to influence individual intentions to set up a business?
- What commitment levels do you have to engage in to sustain the interest of an entrepreneurial business?
- What skills set is required to help in the management of the business venture

METHODS

PARTICIPANTS

Eight (8) final year students of a private tertiary institution in the greater Accra were selected for the study. This was because the nature of the study required an in-depth knowledge of the participants' experiences about the discourse.

INSTRUMENTS

Interviews guides were used to collect data from participants. These guides were semi structured and comprised of three main questions and probes. The questions were adopted and revised from Mitchell *et al.* (2000, p. 974). This scale was also developed by Read (1987) and it comprised of items that measure willingness, ability and arrangement scripts.

PROCEDURE

The interviews were conducted at the end of lecture sessions in two private tertiary institutions. All participants were fluent in the English speaking language and so the interview sessions were largely conducted in the same language. Ethical considerations such as voluntary participation, informed consent and confidentiality issues were observed. Permission was sought from the participants before the data was audio taped to aid the process of transcription. The duration of the interviews lasted for nine hours for two days. A period of 4 hours was spent on the first day and subsequently 4 hours for the second day. The recorded interviews were transcribed over a period of 2 days before content analysis was done to generate the themes.

ETHICAL CONSIDERATIONS

With strict adherence to ethical principles from the APA, the authors observed principles of informed consent, confidentiality and voluntary participation. Permission was also sought from the lecturers whose students were interviewed. Accordingly, the benefits of carrying out the research were also stated in order to give the prospective participants deeper insights why the research was being conducted. Participants were informed that voluntary participation was key and so they had the option to take part in the study or opt out without facing any sanctions from the researchers. In other words, they were given consent forms, which explained the processes, involved in the study. Additionally, the participants' consent was sought for the audio recording of their responses and they assured that the transcribed data would be saved with a password to secure it for the sake of confidentiality.

DATA ANALYSIS

The data was analysed using content analysis where emerging themes on the experiences of the final year students concerning the three cognitive styles towards decision-making in entrepreneurial businesses were identified. The authors plunged themselves in the transcribing the data after which the codes and themes were developed. The themes and the transcribed data were given to an expert in the discourse for examination until an agreement was reached on the themes. Following the development of the themes, the authors realized that the students had interesting views to share on the matter. In the light of this, the authors formulated meanings and reviewed literature to aid the themes identified.

TRUSTWORTHINESS OF THE RESULTS

In following the steps listed for the production of trustworthy results by Maxwell (1996), the authors obtained the exact and complete representation of respondent's experiences by repeating the audio recordings on several occasions and reading through the transcribed data concurrently for accurate representations. To ensure reliability, we used an efficient tape recorder to aid a detailed transcription of interview data. Also amongst ourselves as authors, we investigated the interview data to ensure the credibility of the data and gave it to an expert in the discourse to do same.

RESULTS

The study identified themes on the three cognitive strategies towards entrepreneurial decision-making. These were the willingness, arrangements and ability scripts of participants in towards entrepreneurial decision-making.

WILLINGNESS COGNITIONS

This theme described some of the participants view on their commitment levels towards the starting of entrepreneurial businesses. It also revealed their perceptions about the extent to which they were receptive towards venture creation opportunities as well as their attitudes towards innovation, openness and their drive towards new situations (Urban, 2008). This means that since the students were of this view they are likely to become prospective entrepreneurs and then will show high-risk performance and alertness to business opportunities. Excerpts of their responses have been stated and to ensure confidentiality, pseudonyms and business related programs have been used to describe respondents. Report from this study is consistent with Karabey (2012) who reported that entrepreneurs and not managers nor accountants showed attitudes of risk performance and entrepreneurial alertness. The same was reported by Karlesky (2015) who stated that cognitive strategies such as distinction-making was positively influenced by the opportunities people identify with respect to new innovations in technology in business activities.

"Since I will be the owner of the business, I will be highly committed to contribute my effort and resources towards all operational levels in order to ensure growth in the business." (*Male final year Accounting student 1*)

"There are different types of business and each requires a level of commitment. These commitments also vary as some might demand time, money and personal involvement. Depending on the type of business, one must devote some time and attention to it in order to sustain it. Also there must be a clear mindset with regards to the business. Without a clear mindset which includes present and future expectations, one must not have the will or interest to sustain the business" (*Female, human Resource management student, 1*)

"Being an entrepreneur means you should be able to bear all risks that comes with the business and other related activity" (*Female, final year management studies student, 1*)

ARRANGEMENT SCRIPTS

This theme described the participants view on the use of relationships, resources and the social network systems when making decisions about venture creation activities (Urban, 2008). The participants were of the view that falling on these ties will give aid in an informed decision as to the specific activities to engage in. This finding was consistent with some studies that reported a significant relationship between social support and social capital on entrepreneurial attitudes (Denanyoh et al., 2015; Turker & Selcuk, 2008)

"In Ghana, there is a statement which goes like this whom you know helps you to get what you want, if you have a relationship with people in the society they can help you or sponsor you with the business you want to set up. Since we know resources are scarce, getting people that can provide resources to set up a business will make it easier to setup the business" (*Male, Final year Accounting student, 2*).

"I believe that good relationships foster unity and productivity hence creating a conclusive environment for the parties involved to share ideas and resources to set up the business" (*Male, Final year Accounting student, 3*).

"Relationships and contacts with others play a significant role in business we undertake. It has the intentions of receiving resources in a form of motivation, encouragement, assistance and advice. It therefore very good to contact others in forming business" (*final year marketing student 1*)

"Relationships and contacts with people creates networks with people which will encourage me in setting up a new venture" (*Female, Final year Accounting student 1*)

ABILITY SCRIPTS

This theme described the participants view on the cognitive structures needed to support the capabilities, requisite skills, norms and attitudes required to create a business venture (Urban, 2008). In view of this, the participants believed that an individual's knowledge and competencies about a business venture is crucial for decision-making. This finding is supported by IJdens 2015 who reported that individuals who have been educated and trained on skills need for a business venture is significantly related with their cognitive strategies towards the said business. The findings were also supported by Pauli (2014) who reported that a significant relationship exists between self-efficacy and opportunity developments such as entrepreneurial businesses. Excerpts from the interview in support of this stance are as follows:

"Different business require different skills however I believe that having some general skills such as good communication, negotiation skills and administrative skills I will be able to run the business efficiently....." (*Female, Human Resource Management student, 2*)

"In my opinion, I should have basic knowledge in all operational activities to ensure that things are done right. Also good communication skills will help me to interact well with my employees and other business around me" (*Male, Final year Accounting student, 4*).

"Adequate communication is an essential skill needed for operating any form of business without it the business will suffer" (*Female Final year Human Resource Management, 2*).

DISCUSSION

The study was aimed at investigating the information processing strategies used by students in entrepreneurial decision-making. The information processing strategies examined are the arrangement, willingness and ability scripts. The transcribed data showed that the three mental scripts play a significant role in influencing entrepreneurial decision-making.

The first research question sought to explore the participants view on their commitment levels towards the starting of entrepreneurial businesses. It also explored their perceptions and mindset set about decisions towards venture creation. The findings of this research question were consistent with several studies who reported that prospective entrepreneurs should be committed to taking risks, showing a sense of alertness and innovativeness when making entrepreneurial decisions and hence the running of the business (Karabey, 2012; Karlesky, 2015)

The second research question sought to explore participants view on the use of relationships, contacts and other social network systems when making decisions on entrepreneurial business. In view of this question the findings were consistent with studies, which reported, that contacts in the form of social support and social capital significantly influences all forms of entrepreneurial attitudes including decision-making (Denanyoh et al., 2015; Turker & Selcuk, 2008).

Finally, the third research question sought to explore participants view on cognitive structures needed to support the capabilities, requisite skills, norms and attitudes required to create a business venture. The findings of the study were consistent with studies, which found a significant relationship between an individual's knowledge of his competency, self-efficacy and decision-making in entrepreneurial activities (Ijdens, 2015; Pauli, 2014).

CONCLUSION

The study highlights some key considerations in venturing into business and as noted by the respondents, risks do exist and hence the needed support systems ought to be put in place to curb or reduce the risks that may arise. Though some allude to the fact that social support is vital, a lack of it present huge challenges thereby thwarting the efforts of entrepreneurial intentions. On the other hand, basic knowledge is important in starting a business, which helps to keep books, manage resources as well as clients.

RECOMMENDATIONS

The findings of the study highlight some area for future research and practice. Future researches can focus on large sample to discover whether there will be significant differences in the current findings. Again, future studies can consider a comparative study between public and private students in tertiary institutions to bring out diverse outcomes. Again, further studies can be considered on challenges of people engaged in entrepreneurial activities. Finally, studies ought to be done to investigate why social support systems are difficult to come by and to throw more light as to how it can be reduced.

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A STUDY OF BENEFITS OF GST OVER INDIRECT TAX SYSTEM USING KNOWLEDGE DISCOVERY PROCESS OF DATA MINING

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ABSTRACT

India is a developing country. To accomplish a series of objectives namely to provide public services and redistribute wealth, Indian government need to have revenue in governments exchequer. This revenue is used for public benefits and development of country. This amount collected by the government is through taxes levied on different stakeholders of country viz. business, consumers, traders, etc. on the goods and services. Till now the taxes levied were direct and indirect, and was varying. It was difficult to maintain the record of tax payers and non-tax payers. Moreover due to corruption, laundering, transfer and illegal trade, the money was converted into black money. Most of the stakeholders were not at all paying taxes. The tax system was complex and burdensome. Also it was disputing and caused various cascading effects. To overcome the problem of varying taxes and to collect revenue for the development of country, government of India has started Goods and Services Tax (GST) to build a new India thought- One Nation, One Tax. This paper discusses about the benefits of introducing GST over Indirect tax system by using knowledge discovery process of data mining for public welfare.

KEYWORDS

GST, data mining, knowledge discovery, public welfare.

INTRODUCTION

Knowledge discovery is the process of finding useful information and patterns from data. It is nontrivial process that is it encompasses all the concepts. Tax systems in India are broadly classified into two categories: Direct Tax and Indirect Tax. Direct Taxes are taxes that are directly paid to the government by the taxpayer. It is a tax applied on individuals and organizations directly by the government e.g. income tax, corporation tax, wealth tax etc. while indirect taxes are applied on the manufacture or sale of goods and services. Indirect Taxes are levied on import, manufacture, sale and even purchases of goods and services. Both the taxes benefits to public as government used the revenue collected by those taxes for public welfare. A dream- "One Nation, One Tax" of the Government of India has become a reality. One of the historical moments of introducing and implementing a new tax named GST (Goods and Services Tax). Earlier indirect tax regime was complex. Taxes were varying. It created economic imbalance in the country and due to it the price of most of the households was high. Moreover various taxes were levied was different for different goods and services, like nature of taxes were service tax, VAT, CST, etc. GST is a one tax boon for the benefits of all the stakeholders of business, trade, consumers and government officials. It has reduced the prices. GST will bring in not only transparency but also economic integration. And economic integration will strengthen national integration [1].

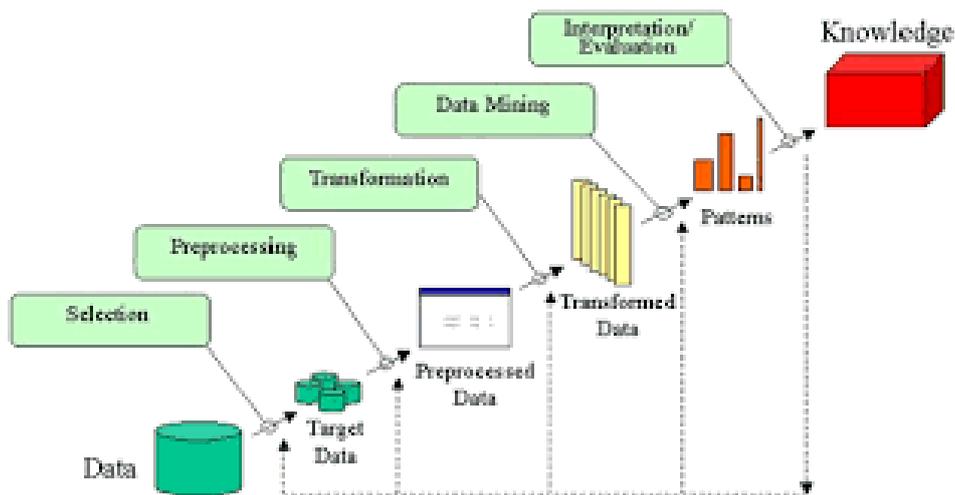
LITERATURE REVIEW

Many research papers have been published that gives detail analysis and study about the Indian taxation system. In 2012, Rajini Arora in her paper represented the framework, policy options and strategies that Indian Govt. should adopt to tackle with this issue and also describes the future challenges to be faced by Govt. in context to black money [1]. In 2015, Monika Sehrawat, Upasana Dhanda, has presented an overview of GST concept, explains its features along with its timeline of implementation in India. They gave more focus on advantages of GST and challenges faced by India in execution. In 2017, Lourduathan F and Xavier P highlighted the background, prospectus and challenges in Implementation of Goods and services Tax (GST) in India. They also examine and draw out a conclusion.

MATERIAL AND METHOD

Data mining is the task of discovering knowledge. The most important field in computer science that helps to discover unknown facts. Day by day black money is been generated just because many stakeholders –traders, consumers and businesses are not declaring their income and paying taxes. Taxes are the main source for generating revenue that the government can use for the development of country. By filing our tax return stakeholder declare how much income is earned during the financial year, the deductions claimed and the tax they paid in the case of indirect tax. The equation is simple, yet many taxpayers mess up their tax returns-either out of greed, ignorance of rules, or just lack of time. Some mistakes are not very serious offences and the taxpayers will get away with an additional tax demand. But some errors such as not mentioning cash deposits after demonetization or foreign assets and income can land the tax payers in serious troubles [5]. Fig.1 below shows how the knowledge discovery process of data mining works. It shows the steps how knowledge is discovered by selecting the data and evaluation it.

FIG. 1: KNOWLEDGE DISCOVERY PROCESS OF DATA MINING (KDP)

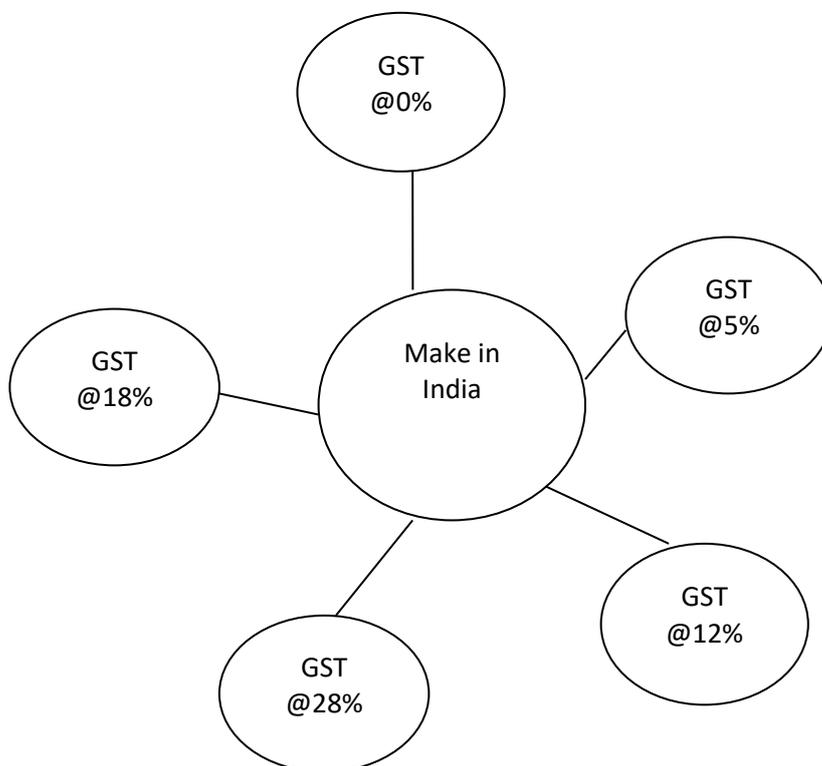


The data provided to the above (Fig.1.) process is the data of indirect tax system. The cause and the effect of indirect tax is the input. That is the raw material given here to knowledge discovery process is the problems with an indirect tax system. The percentage of taxes applied on goods and services were varying. After pre-processing and transformation of data, it is discover that there are certain problems in the indirect taxes since it is levied with varying percentage on goods and services. Evaluation results in that, the indirect tax system has certain drawbacks and is more prone to less generation of revenue required for the development of country. It is also disadvantageous that more black money can be generated. Also fails to maintain the record of revenue generated by good and services provided to the public or consumers. The knowledge discovered is disputing and ambiguous. Following is the knowledge discovered through KDP:

1. Every state has different taxes levied on good and services.
2. Taxation between central and state government is bifurcated. This creates difficulties and disputes in generation and distribution of revenues.
3. Application of excise duty on at manufacturing level is an obstruction to an efficient and neutral flow of tax credit that is there is various dispute regarding valuation of product.
4. The tax authorities are creating complications between good and services. Some goods and services fall under central government and some under state government, which raised disputes in taxation scenario.
5. Since the Service Sector is growing rapidly and Central has exclusive power to levy tax on services. The State Government is losing its revenue by not levying tax of services under the State.
6. Various services such as Oil, Gas Production, Mining, Agriculture, Wholesale and Retail Trade, Real Estate Construction were kept out of range of central VAT. Also taxes such as Entry tax, Octroi, Luxury Tax, Entertainment tax are kept outside of VAT Scheme.
7. The present system, the dispute resolution system is complex, more time, and money consuming.
8. The returns that stakeholder file under various taxation laws and rules are complex and lengthy, has lack of verification under state as well as central level. Detail assessment of is needed.
9. The tax structure in India is complex and burden sum. There are various definitions of the same transaction in different States as well as Central Laws. These should be addressed.

To overcome the drawback of varying indirect tax system a new and one tax system called GST (Goods and Services Tax) is introduced by government of India. As stated by Constitutional amendment act. For GST - "The GST is a Value added Tax (VAT) and is proposed to be a comprehensive indirect tax levy on manufacture, sale and consumption of goods as well as services at the national level. It will replace all indirect taxes levied on goods and services by the IGST is a single tax on the supply of goods and services, right from the manufacturer to the consumer" [1]. Not only is GST beneficial for manufacturers and consumers but also would make Indian products competitive in the domestic and international markets. It will give a major boost to the 'Make in India' initiative by making goods and services produced in India competitive in the national as well as international market. Fig. 2 below show how GST helps Make in India Process. GST strengthen the power of Make in India.

FIG. 2: GST HELPS MAKE IN INDIA PROCESS



GST is most beneficial implementation for the welfare of the nation. GST brings benefits for all the stakeholders of the country. It is not only a simple tax structure, but will also benefits the economy of country.

GST will help the economy to grow in more efficient manner by improving the tax collection as it will disrupt all the tax barriers between states and integrate country via single tax rate. GST was first introduced by France in 1954 and now it is followed by 140 countries [3]. Below Table 1 shows benefits as follows for India:

TABLE 1: GST BRINGS BENEFITS FOR ALL [4]

Factors	GST Benefits
	COMMON MAN FRIENDLY <ul style="list-style-type: none"> • Huge number of items are either exempted or in 5% tax brackets • Maximum benefits to the poor & the common man. • Will ensure that the poor get their due. • Level playing field for small traders in any part of the country.
	ADVANTAGES FOR TRADE & INDUSTRY <ul style="list-style-type: none"> • Common procedures for registration, duty payment, return filing and refund of taxes. • Seamless flow of tax credit from manufacturer/supplier to user/retailer to eliminate cascading of taxes. • More efficient neutralization of taxes to make our exports more competitive internationally. • Benefits of exemption/composition scheme for a large segment of small scale suppliers to make their products cheaper.
	BENEFITS TO ECONOMY <ul style="list-style-type: none"> • To create a unified common National Market. • To make India a manufacturing hub. • To boost investments & exports. • To generate more employment by increased economic activity.
	SIMPLIFIED TAX STRUCTURE <ul style="list-style-type: none"> • Reduction in multiplicity of taxes now leviable on goods & services, leading to simplification. • Simpler tax regime with fewer exemptions. • Harmonization of laws, procedures and rates of tax across the country. • Common system of classification of goods & services to ensure certainty in tax administration.
	CREATING ONE ECONOMIC INDIA <ul style="list-style-type: none"> • Freedom of movement of goods & services • Consumers to benefit by increased competition. • Level-playing fields for producers & consumers across the country. • Strengthening the sense of nationhood and unity.

CONCLUSION

Knowledge Discovery in Databases is the process of searching for hidden knowledge in the massive amounts of data that we are technically capable of generating and storing. The desire and need of current scenario of country has led to the development of new tax system-GST. With the development of data discovery techniques the value of the data is significantly improved. Knowledge discovery is the non-trivial process of identifying valid, novel, potentially useful, and ultimately understandable patterns. Knowledge Discovery process concludes that single tax brings down the price of most households. 81 % of items fall below in 18% GST slab. Through this paper a stakeholder can gain the knowledge that earlier indirect system was confusing, neither central and state government nor public were benefited by it.

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FOREIGN DIRECT INVESTMENT POLICIES IN THE LIBERALIZED TELECOM SECTOR OF INDIA - A REVIEW

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ABSTRACT

The Indian telecom network is the second largest in the world after China. In the year 1991, the Government of India put forward liberalization policies. This affected the telecom sector also with a hike in competition rate-especially in the case of cellular services, which can capture the attention of various foreign investors. When compared to the initial years there is huge hike in the case of FDI inflows in 2009-10. Mauritius has the highest FDI in Indian telecom sector. When compared to Mauritius Singapore's investment is very low. In Telecom sector there is no steady improvement in Foreign Direct Investment (FDI).

KEYWORDS

FDI, foreign investors, liberalized policies, telecom sector.

INTRODUCTION

The Indian telecom network is the second largest in the world after China. With the adoption of liberalization policy in telecom sector, it could attract more FDI in this sector, and increase private sector participation in total telephone connections of the nation. In the year 1999, the share of private operators was 5 percent. In the year 2011 December, it was reached to 86 percent. A competitive stimulus brought forward through the liberalization and subsequent FDI policies could make a hike on telecom penetration together with a significant reduction in tariffs. Indian telecom industry has undergone an innovatory phase over the past few years. FDI is usually portrayed as an economic blessing that countries should strive to increase. FDI in some sectors can weaken governments vis-a-vis foreign corporations, which can exercise considerable influence over public policy through control of information and management decisions. FDI in sectors like essential services can actually undermine the balance of payments. In India, like in most other countries, telecom was originally the exclusive preserve of the Government. With the initial opening up of the sector to private capital, a large number of international telecom majors were interested in entering the Indian market.

FDI IN TELECOM SECTOR

In the year 1991, the Government of India put forward liberalization policies. This affected the telecom sector also with a hike in competition rate-especially in the case of cellular services, which can capture the attention of various foreign investors. Foreign ownership in telecom in India came in with the 1994 tender for basic and cellular services through which the private parties were to be given licenses for various telecom circles. The tender conditions specified that only companies registered in India could quote. However, it allowed companies to be joint ventures with a cap of 49% for foreign ownership. It might be noted that the license condition also specifies this cap and it is not a cap on direct foreign equity but on total foreign equity, therefore is a cap on both direct and indirect foreign equity. During the period April 2000-November 2012, the government took many policy initiatives to liberalize the FDI policy for the services sector. These include liberalizing the policy on foreign investment for companies operating in the broadcasting sector, like increasing the foreign investment limit from 49 percent to 74 percent in teleports (setting up up-linking HUBs/teleports) and direct to home (DTH) and cable networks, and permitting foreign investment (FI) up to 74 percent in mobile TV; permitting foreign airlines to make foreign investment and up to 49 percent in scheduled and nonscheduled air transport services. Hutchison, Idea, Bharti, BPL and Spice have emerged winners from the government's decision to increase the FDI limit in telecom Service providers. The investors, who are the beneficiaries of increasing FDI limit, are of the view that attracting foreign investment will help to increase the growth and telecom penetration in the country, and increased FDI limit can remove a large hurdle in the expansion of the Indian Telecom companies. International agencies such as IMF and the World Bank had also advocated the removal of such restrictions. The other voices in favour of lifting the foreign ownership cap had been the cellular, operators and also various foreign financial institutions. However, in spite of repeated attempts, the Indian Government had resisted such moves, mainly on security considerations till the year 2013. On 1st August, 2013 in a major reform push, government approved 100 percent FDI in the telecom sector. It has been decided to increase FDI cap in telecom to 100 percent from 74, up to 49 through automatic route and beyond that FIPB. The idea behind increasing the FDI limit in the telecom sector is to help the industry get fresh funds to lower financial burden. The decision of the government to increase the FDI limit in this sector would result in large -scale funds coming into the Indian telecom market. Indian Telecom sector has shown high growth rates and the funds that will come in will facilitate the process of network expansion.

REVIEW OF LITERATURE

The following study papers and articles were reviewed in this study:

Preetha (2011), in the study paper on FDI in Telecom Sector presented an overview of FDI in Indian Telecom sector. This paper examined the current status of FDI in the Indian telecommunication sector and the issues facing foreign companies, seeking to invest in the Indian telecommunication sector. The paper concluded with a brief economic examination of the factors influencing the level of FDI.

Chennappa.D (2005), in his research paper discussed the FDI in Telecom sector in Indian. Through this paper the author opined that among the listed countries, most of them allowed FDI after the Tele-density and the per-capita incomes had gone up to certain levels, when compared to them, India lagged behind on both tele-density and per- capita income levels. India, therefore, needed to strengthen the domestic manufacturing units and niche market first of all and increasing FDI cap is not sufficient for increasing higher rural Tele-density.

Chennappa.D (2005), in his article on FDI opined that the higher FDI had led to the increase of urban Tele-density. He suggested that liberal entry policy of FDI could go long way in encouraging foreign investment in infrastructure but not hacking the FDI cap from 74 percent to 100 percent. He was also of the opinion that the liberalization with foreign equity had led to the reduction of tariff significantly in mobile and long distance services.

SIGNIFICANCE OF THE STUDY

The argument for lifting FDI caps has been that India requires very large amounts of capital to rapidly expand its telecom infrastructure. According to some foreign investment consultants, without FDI flows, India would have shortage of capital and not be able to increase its Tele-density. Estimates showed that an investment of about Rs. 50,000 crores was required in the sector in the years 2005 to 2007 for keeping pace with the growing demand. Since such funds were not available in the domestic market, telecom operators had demanded the FDI limit be raised beyond 49 percent. The government was of the view that raising money from domestic market was more expensive than internationally. In the liberalized era, a study focused on FDI in telecom sector possesses more importance as the services of telecom sector are essential services of one nation.

OBJECTIVES

1. To analyze the FDI policies in Telecom sector of India.
2. To study the growth of FDI in telecom sector after liberalization.
3. To analyze the sector wise FDI in Indian Telecom Sector.

METHODOLOGY

The study is based on secondary data collected from various sources like research journals, records of Department of Telecommunication, Annual reports, etc. The period of study covers from the years from 2000-2013. Through this study, India's FDI policy in telecom sector, FDI inflows in telecom sector from various countries and in various telecom sectors were also analyzed.

RESEARCH RESULTS

(1) FDI POLICY

India has lived up to its image of being one of the most attractive foreign direct investments (FDI) destinations. FDI has been one of the main drivers of continuous growth in the Indian telecom sector. In 2005, the government decided to increase the limit in the telecom sector to 74% from 49%. Additionally, the government has permitted 100% FDI in the areas of telecom equipment manufacturing and provision of IT enabled services. In the telecom sector, FDI up to 49% was allowed under automatic route and beyond that up to 74% was permitted through the Foreign Investment Promotion Board (FIPB), a government body. Telecom Commission, the highest decision-making body of the department of telecom (DoT), approved 100% foreign direct investment in the telecom sector in the year 2013.

TABLE NO. 1: REVISED FDI POLICY OF TELECOM SECTOR IN INDIA

	FDI Cap	Entry Route
Telecom Services (including Telecom Infrastructure Providers Category-1) All telecom services (including Telecom Infrastructure Providers Category-1) Basic and cellular, United Access Services, Unified License (Access Services), National/International Long Distance, Commercial V-SAT, Public Mobile Radio Trunked Services (PMRTS), Global Mobile Personal Communications Services (GMPCS) All types of ISP licenses, Voice Mail/Audio tex /UMS, Resale of IPLC, Mobile Number Portability services, Infrastructure Provider providing dark fiber, right of way, duct space, tower (Category- I) except other service providers.	100%	Automatic up to 49% Beyond 49% Government (FIPB)
Other conditions: FDI up to 100% with 49% under automatic route and beyond 49% through FIPB route subject to observance of licensing and security conditions by licensee as well as investors as notified by the Department of Telecommunications(DOT) from time to time		

Source: <http://www.dot.gov.in>

(2) YEAR-WISE FDI INFLOWS

TABLE NO. 2: FINANCIAL YEAR WISE FDI EQUITY INFLOWS IN TELECOM SECTOR FROM APRIL 2000 TO OCTOBER 2013

Sr No:	Year (Apr-Mar)	In Rs. Crore	% change
1	2000-01	784.16	-
2	2001-02	3938.46	402.25
3	2002-03	907.73	-76.95
4	2003-04	397.84	-56.17
5	2004-05	541.10	36.01
6	2005-06	2751.45	408.49
7	2006-07	2149.58	-21.87
8	2007-08	5099.56	137.24
9	2008-09	11684.81	129.13
10	2009-10	12269.66	5.01
11	2010-11	7542.04	-38.53
12	2011-12	9011.53	19.48
13	2012-13	1654.30	-81.64
14	2013-14 (Apr-Oct)	197.16	-
Grand Total		58929.38	

Note: Amount includes the Inflows received through SIA/FIPB route, acquisition of existing shares and RBI's automatic route only.

Source: <http://www.dot.gov.in>

In FY 2009-10, telecom attracted USD 2.5bn FDI (10% of total FDI). The table indicates that the financial year 2012-13 faced the lowest FDI inflow (Rs 1654.30 crore) in this sector after 2004-2005. The financial years 2002-03, 2003-04, 2006-07, 2010-11 also have negative inflows of FDI in Telecom Sector. The industry has excellent future prospects, but can re-attract investors only if it can create stable long-term policies and a conducive atmosphere for Government and industry to work as partners.

(3) SECTOR-WISE FDI INFLOWS

TABLE NO. 3: SECTORS ATTRACTING HIGHEST FDI EQUITY INFLOWS

S. no	Sector	Year			Cumulative inflows (Apr 2000 to July 2013)	%age to total FDI inflows
		2011-12 (Apr-Mar)	2012-13 (Apr-Mar)	2013-14 (Apr-july, 13)		
1	Services sector (includes Financial, Banking, Insurance, Non-Financial/ Business outsourcing, R&D, Courier, Tech. Testing and analysis)	24656	26306	5770	178045.57	19.10
2	Construction Development (Townships, Housing, Builtup infrastructure and Construction development projects)	15236	7248	2092	103140.99	11.20
3	Telecommunications (Radio paging, Cellular, Mobile, Basic telephone services)	9012	1654	66	58797.85	6.42
4	Computer Software & Hardware	3804	2656	1244	54018.53	5.94
5	Drugs and Pharmaceuticals	14605	6011	5453	54332.65	5.65

Source: RBI Bulletin

Table No. 3 shows that Telecom Sector possesses the 3rd position in attracting FDI. As per the accounts up to July, 2013 Telecom sector could attract FDI of Rs. 58,797.85 crore that is the 6.42 percent of the total FDI inflow of the country. When compared to other two sectors this amount is very low. With 858 million wireless connections, the Indian telecom system has become the second largest wireless network in the world.

TABLE NO. 4: SECTOR-WISE FDI EQUITY INFLOWS

S. no	Sector	Amount of FDI Inflows		%age of Total Inflows	
		(In Rs. crore) From April 2000 to August 2010.	(In Rs. Crore) From April 2000 to October 2013.	2000-10	2000-13
1	Telecommunication	15,354.29	19,365.26	2.88	2.07
2	Radio paging	26.25	27.30	0.0	0.0
3	Cellular mobile/ Basic telephone services	28,097.08	29,785.91	5.13	3.15
4	Other (Telecom)	2,017.32	9,750.91	.36	1.03
Sector Total		45,494.95	58,929.38	8.38	6.26

Source: <http://www.dot.gov.in>

The Table No. 4 shows that cellular mobile and basic telephone services have attained Rs. 28,097.08 and 29785.91 crores up to August 2010 and October 2013 respectively, which is the highest percentage of FDI in total Telecom Sector (5.13 percent and 3.15 percent in 2000-10 and 2000-13 respectively). The FDI inflows in Radio paging are Rs. 26.25 crores and 27.30 crores up to August 2010 and October 2013 respectively.

FINDINGS

The following major findings are emerged from the study.

1. In Telecom sector there is no steady improvement in Foreign Direct Investment (FDI).
2. More liberalization in policies could not bring huge hike in FDI in Telecom sector.
3. When compared to the other financial years there is huge hike in the case of FDI inflows in 2009-10
4. The highest FDI inflows in Telecom Sector of India go to cellular mobile and basic telephone services. In the case of radio, paging FDI is very low.

CONCLUSION

The growth opportunities are able to attract significant FDI in the telecom sector. Instead, it can be seen in Telecom sector that the confidence of investors in this industry is now at an all-time low (in 2012-13 and in 2013-14). This is evident from the decreasing FDI. Telecom sector in India has been facing ups and downs in FDI. Hiking FDI limit from 74 percent to 100 percent in the telecom sector will not make much of a difference, as foreign investors would continue to exercise control in more or less the same attitude as they did when the cap was 74 per cent. FDI is expected to provide a much-needed boost to the sector and is likely to attract huge investments in the near to long-term.

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APPLYING A COMPREHENSIVE CREDIT RATING FRAMEWORK TO THE TRANSPORTATION AND LOGISTICS INDUSTRY IN INDIA

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ABSTRACT

In India, credit risk management in the banking system has been continually developing. Advances in the Credit Rating Frameworks (CRFs) have helped the banks in avoiding non-credit worthy firms and improve the strength of their loan portfolios. Through meticulous credit evaluation, banks try to minimize credit specific risk to their ideal cost of capital. With this as the backdrop, this project tries to apply one such CRF, to select companies in one of the upcoming and burgeoning industries of India, i. e. Transportation & Logistics Industry. Transportation & Logistics Industry is one of the upcoming Industry (in terms of valuations as well as technology). It has huge scope in terms of adopting Information and Communications Technology. The players in the Industry are generally small and upcoming, thereby proving to be prospects eligible for bank credit. If invested in effectively, this industry may prove to be the economy's growth driver in the coming years, i.e. the shift from developing to developed might take place on the back of strong performance by the Logistics Industry.

KEYWORDS

credit rating, credit risk, financial ratios, risk.

INTRODUCTION

Credit risk has always been a primary concern for financial services institutions but has not always been very effectively managed. The financial crisis that started in 2007 exposed the weaknesses of existing risk management systems among financial services institutions. There were shortcomings in the way many different firms of all sizes and regions were managing their credit risk. This was especially highlighted by complex and innovative products like mortgage-backed securities and collateralized debt obligations. Many firms had considerable exposure to these products without understanding the inherent risk. This resulted in huge losses as the prices of their investments fell. It also had a ripple effect as some of their counterparties, including large firms like Lehman Brothers, filed for bankruptcy or came close to doing so.

In India, the post nationalization era, saw remarkable growth in Bank credit and that has been the primary driver for growth in the Industrial sector. During the post-independence and the pre-nationalization period, commercial banks were largely owned and controlled by large business houses. This resulted in commercial credit flowing to only select enterprises. Thus, the credit portfolios of the banks suffered from acutely high exposure. Due to this, many banks became functionally unviable. The nationalization of the commercial banks in 1969 and 1980 shifted the focus of commercial lending to a great extent. Certain sectors, which were crucial to the development of Indian economy, were identified and priority sector lending was done.

By the early nineties, the services sector had emerged as a significant contributor to the country's Gross Domestic Product. The services sector has, since then been an area of tremendous opportunity for the commercial banks in India.

The guidance note on Credit Risk Management (CRM) by RBI, in 2002, required banks to introduce a Credit Rating Framework (CRF). The CRF was prescribed as the basic module for developing a CRM system. Instead of just classifying credit exposure as good or bad, banks are required to assign rating by way of a number/alphabet/symbol as an indicator of the risk associated with the account. Such rating is expected to standardize the credit selection procedures. Of course, it has also been made clear by the RBI, that rating is not a substitute for vast lending experience acquired by the lending officials in the Bank. Hence, the eventual credit decision is to be taken using the rating assessment and the lending experience of bankers.

We have considered on such credit rating framework of a Bank and tried apply it to one of the company in the logistics industry in India.

THEORETICAL FRAMEWORK

We will now look at the credit rating framework that will be used in our analysis.

FIG. 1



The above figure depicts the categorization of risks as analysed in the framework. We look at each in detail now.

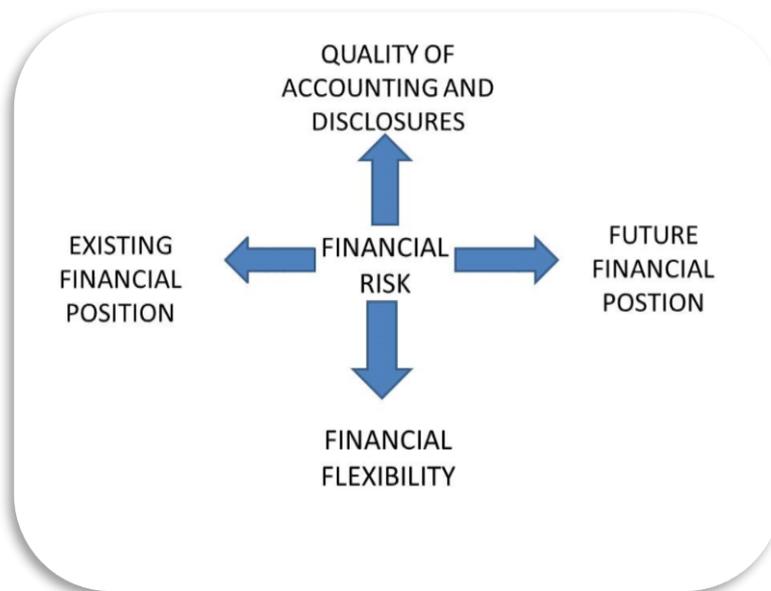
Industry Risk assessment in a standardized framework comprising of the following factors is carried out-

1. Demand-Supply Situation- This includes past and future demand-supply outlook of the industry, entry barriers, the nature of the market, availability of substitutes, number of players in the industry, criticality of the product, etc.
2. Impact of Government Policies - The Government regulations definitely have an impact on the way business is carried out in a particular Industry. The government plays a significant role in controlling both demand as well as prices.
3. Extent of Competition- This factor is the culmination of the effects of Porter's Five Forces.
4. Key Input Risks- The availability of the inputs such as raw materials, power, fuel and human resources has a significant impact on the overall price competition in the industry. Scarce availability might lead to uncertainties on the continuity of production.
5. Financial performance of the industry- Here we have incremental Capital Output Ratio- The financial performance of the industry is a true indicator of the historical performance. ICOR provides the overall attractiveness of the sector.

We now look at the Internal Risk factors

1. Business Risk- Business risk captures the sustainable ability of the company to achieve revenues and margins and also to register improvements over the years. Business prospects of a company are usually, largely impacted by the Industry, but business risk for any company is unique to the company itself. The company's business risk is characterized by aspects such as linkages to raw materials, the level of integration, scale of economies, technical expertise, human resources, market reputation, brand strength, distribution structure, cost efficiency and overall competitiveness vis-à-vis its peers.
2. Financial Risk- This assessment is taken up in the following framework.
3. With reference to Management Risk and Project Risk, we do not look at these factors in specific mainly on account of lack of qualitative data (as there was no interaction with the managements of the companies under consideration).

FIG. 2



INDUSTRY RISK

➤ THE DEMAND-SUPPLY SITUATION IN THE INDIAN INDUSTRY

The purpose of the logistic industry is to enable an effective transportation or timely movement of goods from one place to another. Freight movement depends upon the overall economic development of the country. Over the past ten years, India's GDP has reached up to INR 113.502 lakh crores in 2015-16 (at 2011-12 prices, RBI).

High economic growth during the past decade has spurred increase in rail, road and port traffic in the country. Apart from economic growth, other factors such as increasing investments in development of country's infrastructure, favorable government policies such as liberalization of FDI norms in sector, growing private players participation and globalization have been providing the growth opportunities in all facets of the industry like freight transportation, warehousing, express cargo delivery and container services. With the growing integration of India's economy with the world, the country's total trade has grown at a CAGR of about 16 percent to USD 650 billion in 2015-16 from USD 190 billion in 2004-05 (RBI). With the focused growth and gradually growing domestic economy, Indian logistic sector has emerged as one of the most attractive sectors in the world attracting investments from large global and Indian private equity (PE) firms. Several global players view the Indian logistics market favorably and have entered India by the way of mergers or acquisitions (M&A) of Indian companies or with joint venture agreements. Some of the major M&A and Joint ventures in the industry include FedEx Express, which acquired Mumbai-based integrated logistics service provider AFL in 2013 and GATI signed joint venture in 2012 with Kintesu World Express a Japan-based air and ocean freight services provider.

The Emerging Market Survey, 2013, conducted by Transport Intelligence (TI) ranks India as the second most attractive logistics market in the future after China. According to TI's survey, India as a fast growing economy with one of the largest consumer markets, industries such as automobile, pharmaceuticals, FMCG and retail will provide impetus to the logistic industry in the future. Moreover, growing emphasis on increasing exports and manufacturing sector will also derive the demand for logistics in India.

Urbanization and fast industrialization also increase this consumption because of higher demand in freight and passenger transport. The Indian urban population grows at an average rate of 3% a year and has increased significantly in the last 60 years from 62 million in 1951 to 377 million in 2011 (Census Data). But despite the growth of the population of India and its economy in general the transport and logistics sector faces accompanying challenges with its infrastructure, environment pollution, increasing traffic density, policies and other inefficiencies in the system.

Presently, India's logistics infrastructure covering the road, rail, ports and air network remains woefully inadequate to meet the economy's demands, leading to the significant rise in the logistic cost. Clogging witnessed on domestic roads and ports, overloading of trucks leading to faster deterioration of road infrastructure, longer inhabit times on ports and longer overall transit times reflect inadequacy of logistics infrastructure. India spends around 14.5 percent of its GDP on logistics (ASSOCHAM), which is comparatively higher than other developed countries like the US, Europe and Japan. However, infrastructure development in the country has been impacted mainly on account of issues related to environmental clearances, land acquisitions, shortage of funds from lenders as well as sector specific challenges that impacted investors' interest for new projects.

In India, high volumes and congestion at airports often results in the use of passenger aircraft for freight shipping. The longstanding practice of cross-subsidizing passenger fares has inflated Indian rail-freight costs making rail freight uncompetitive. Countries with well-established rail networks see freight rates as 9 low as 1/4th of India's (on PPP basis). The severe shortage of dedicated platforms for freight unloading and truck docking bays at Indian rail stations has compounded

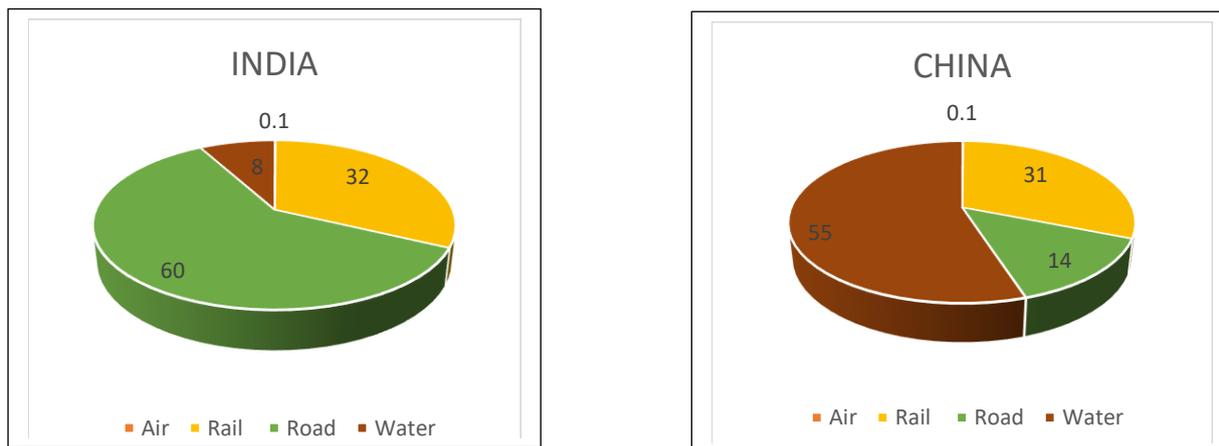
the issue. This poor infrastructure has led to the logistics model being heavily skewed toward transportation by roads. A nationwide reliance on trucking has resulted in a bifurcated distribution network. Most of our roads are un-metalled or single. The number of 2 lanes and long haul corridors (just 7 in number!!) together account for 0.5% of the total road network. The same corridors carry over 40% of national road freight. Driver efficiency on Indian routes is abysmally low, driven by the poor quality of infrastructure; congestion and high wait times on inter-state borders. India's road transport network contrasts a troubling reliance on inefficient means with severely lacking infrastructure. Thus, the freight and the line haul expenses of the Logistics companies in India form a high percentage of the total operating expenses and consequently they operate on very low margins. We now compare the Indian and the Global scenario.

FIG. 3



In India, nearly 61% of the cargo is moved by road, 30% by rail and rest by airway, pipelines and inland waterways. This is as compared to a 37% share of road in the USA and 14% in China (the below figures substantiate). Movement of long haul bulk traffic by road is less efficient than by rail. In India, road has become the predominant mode of transportation of freight cargo because poor rail freight infrastructure such as low quality loading and unloading stations and lack of container trains on the railway network and Government policy of subsidizing and prioritizing the passenger tariff and traffic by freight tariff and traffic creating uncertain transit times. This is further compounded by Railways having a preference for customers who can provide full train load and cannot efficiently run mixed trains which can carry different types of cargo. About 89% of its freight traffic is contributed by major commodities such as coal, fertilizers, cement, petroleum products, food grain, finished steel, iron ore and raw material to steel plants. The balance 11% is other commodities moving in bulk and containers.

FIG. 4 & 5



Further, high dependence on roads is adverse for the environment, as emissions from road transport are much higher than emissions from rail and waterways. Road transport emits 84g of CO₂ when compared to 28g for rail and 15g for waterways (McKinsey and Co.). In this context, we will look at the Indian Truck market in detail, later. Coming to warehousing, the second largest component of logistics costs, India again faces severe shortages. Primarily designed for storing agricultural produce, the size of the average warehouse in India is 1/10th of that of developed countries. Indian warehouses lack sophisticated management systems and therefore yield poor utilization rates. Cold storage facilities in India are geared toward a single-commodity: potatoes. 75% of India's cold chain capacity is used solely for potato storage (McKinsey and Co.). The remaining 25% cater to all other agricultural and manufactured goods. Yet potato storage contributes only 20% of total cold storage revenues while multi-modal storage represents more than half. Geographically, cold chain facilities are grossly concentrated. Seven states (of 29 total) account for about 87% of India's cold chain capacity (FCI).

In a well-aligned intermodal value chain; ports feed to inland waterways that supplement quality-connecting roads; airports have adequate cargo handling hubs and parking bays for freighter aircrafts; while road and rail networks serve ports and mines.

The third party logistics market is still in its nascent stages in India, facing issues such as lack of infrastructure (warehouses and cold storage), lack of economies of scale due to unorganized private truck operators, and lack of efficient processes and automated, technologically advanced monitoring systems.

This weak supply situation (with high demand prospects) actually increases the credit infusion prospects in the Transport & Logistics industry, because, credit, if channeled optimally has the potential to tap the untapped demand and thereby return sizeable benefits.

➤ **FUTURE OF PROSPECTS (INCLUDING GOVERNMENT POLICIES)**

1. **Collaboration between E-Commerce industry and LSPs-** According to a report released by Merrill Lynch in 2015, it has been estimated that the e-commerce industry in India will be worth USD 220 billion by the year 2025. In the midst of fast growth, it is essential to leave the logistics to the experts by entering into

strategic partnerships with the logistics service providers (LSPs). Small and medium-sized enterprises can gain from this strategy as it helps to expand the business and provide better control over cost. The global partnerships between Alibaba Group and multiple LSPs, for instance, helped the group get better opportunities in Southeast Asia and other regions. In the same way, the e-commerce companies in India can gain a lot by collaborating with the LSPs. We will look at E-Commerce Logistics in detail later.

2. **Robust Retail Industry-** The retail sector of India is now among top five fastest-growing markets globally and is expected to touch USD 1 trillion from the present size of USD 700 billion (IBEF). Most of it is going to be through modern retail i.e. through shopping malls, which is expected to grow at 20 per cent in the next five years. This is reflected in the fact, that 500 malls were operational by the end of FY2015, in India. Thus, the logistics sector will definitely have pivotal role to play, for this growth to materialize.
3. **The impending GST implementation-** To talk about one example showing the positive impact of GST; currently, goods incur 2 per cent central sales tax (CST) when they are manufactured in one State and sold in another. To avoid this, industries transfer the manufactured goods to warehouses in the State from where the sale of goods takes place. This helps them avoid CST while simultaneously availing the input credit that can be obtained through value-added tax. But this makes them incur extra storage costs. Now however, with the implementation of GST, there will be a virtual melting of the state to state boundaries and a likely consolidation of small warehouses into bigger ones is going to take place. This will help in reaping the benefits of economies of scale.
4. **FDI regulations-** As part of its Make in India initiative, the Government of India has allowed 100 per cent FDI under the automatic route for all logistics services, including storage and warehousing. Also, FDI of up to 100 per cent is permitted for courier services.
5. **Establishment of free-trade warehousing zones-** As per the government’s initiative of setting up Free-Trade Warehousing Zones (FTWZ), several free trade zones have been established across the country with the objective of facilitating trade of goods and services in free currency. FTWZs offer a single window solution for multiple logistics activities, with particular focus on trade flow. FTWZ are governed by the provisions and rules of the SEZ Act. E.g. - DHL’s Free Trade Zones in Chennai and Mumbai offer a one stop solution for all the inventory management related issues.

Thus, with the above trends in the offing, the Transportation & Logistics Industry definitely, is a green pasture as far as credit infusion prospects are considered.

➤ **COMPETITION IN THE LOGISTICS INDUSTRY**

The following are the defining features of the Transportation & Logistics Industry in India-

1. There are a large number of small players in the market. However, a few prominent players include GATI, TCI, CONCOR, DHL, Blue Dart, Aegis Logistics, VRL Logistics, etc.
2. As mentioned earlier as well, each player in the industry specializes and caters to one of the aspects of logistics. However, some of the bigger companies may provide services in multiple dimensions as well. Therefore, we see a considerable degree of product differentiation in the industry.
3. The market entry and exit situation is considerably easy as well. In order to enter the market, compliance with the provisions of the Companies Act, 2013 is vital. These provisions are easy to understand and apply. Also, there is all the more possibility for foreign competitors to enter, with 100% FDI allowed in the automatic route.
4. Non-price competition also is possible in the industry, mainly because, each of the players has the possibility of ensuring customer/client satisfaction in their own unique manner. It can be through, prompt delivery of freight, an innovative logistics solution, better inventory management service when compared to peers at a similar price range, etc.

Considering the above features for the Transportation & Logistics Industry, we come to the conclusion that it falls under Monopolistic Competition. Also, due to the existence of a large number of firms and a few prominent players, we also see the possibility of M&A activity in future course of time. One example is the acquisition of Drive India Enterprise Solutions Limited (DIESL, a TATA Group company in the past) by TVS Logistics Services Limited (TVLSL) in 2015.

➤ **ICOR OF THE INDUSTRY**

In order to first gauge the financial performance of the industry considered by us, we have calculated the Incremental Capital Output Ratio for the same. The incremental capital output ratio can be derived for sector or industry in an economy as follows-

$$ICOR = \frac{I_t}{Y_t - Y_{t-1}}$$

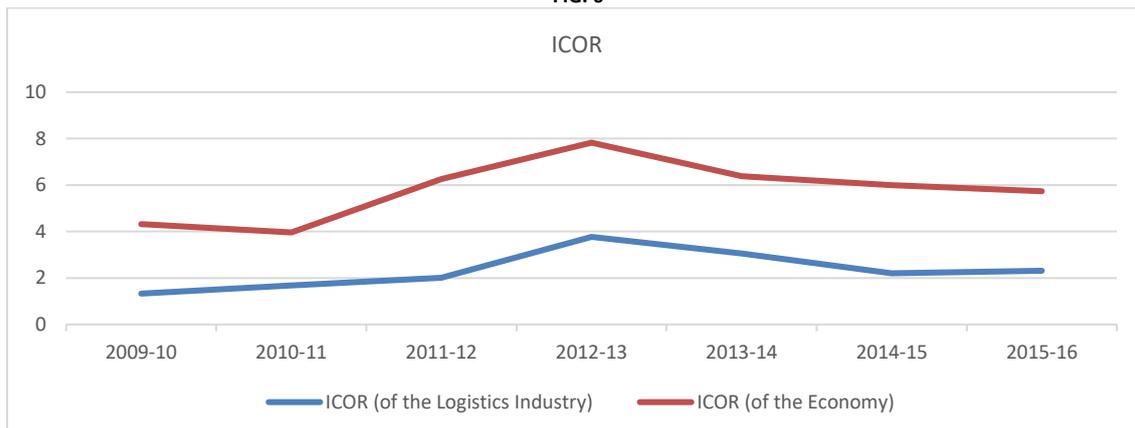
Where I_t is investment or gross capital formation in t period, Y_t is GDP in t period and Y_{t-1} is GDP in t-1 period for i^{th} sector in an economy. A high value of ICOR represents low investment productivity in the sector for which ICOR is measured.

ICOR was calculated using the above formula, and the data for the calculation has been obtained from the National Accounts Statistics of various years. (Refer to Annexure for Detailed Figures)

TABLE 1

Year	ICOR (of the Logistics Industry)	ICOR (of the Economy)
2009-10	1.329760712	4.325948552
2010-11	1.686422311	3.963006809
2011-12	2.013215269	6.2572918
2012-13	3.771748669	7.828911662
2013-14	3.060053874	6.385713936
2014-15	2.210022079	5.999797956
2015-16	2.317090909	5.738416836

FIG. 6



Comparing the ICOR of the economy and the sector of our consideration, we find that both of them follow a similar trend. Logistics is included in the Services Industry, and general experience has always shown that Services tend to have low ICOR values when compared to the sometimes double digit ICOR values of the Manufacturing Industry. The same is reflected in the findings above. Over the past seven years, the Logistics Industry has had an average ICOR of 2.5, which bodes well for the Industry. It basically means that the amount invested in this industry is generally recovered in a span of 2.5 years on an average. It can also be interpreted as- in order to generate Rs.1 worth of output, we need to invest Rs. 2.5, in the Logistics Industry. Thus, we can come to the conclusion of efficient utilization of capital in this Industry. It further implies that credit if given to a firm operating in the Logistics Industry, the probability of recovery will be on the higher side, as there is efficient utilization of capital employed. Thereby, indicating positive credit infusion prospects.

We will now look at the overall positives and negatives that emerge out of the above analysis-

THE POSITIVES

1. The demand-supply mismatch can be exploited to our advantage. As all the basic four verticals of the industry (Transport, Warehousing, Logistics and Value Added Services) are facing shortages on the supply side, a promising venture looking to invest capital optimally, can be supplied with credit.
2. The upcoming trends of GST implementation and growth in E-Commerce augur well for this Industry. Ballooning E-Commerce and the virtual melting of State borders (with GST) will definitely drive the Logistics Industry in the positive direction.
3. The presence of product (service here) differentiation, large number of small players and four different verticals will enable the lender to diversify the Credit Risk, by lending out to players with different set of characteristics.
4. The Incremental Capital Output Ratio (ICOR) data, speaks well about the industry. The computed values are in line with the ICOR of Services in general in India and also lower than India's overall ICOR values.
5. India's recent performance in the Logistics Performance Index (LPI) is a definite booster. However, LPI looks at trade on international gateways alone, so we cannot consider this as a decisive factor. But improvement in performance here, is definitely a positive for initiatives such as Make in India.
6. Logistics India Inc., given the present state of affairs, is ripe for tech disruption. Mainly because, India seems to be sandwiched between growing demand for logistics services on the one end and a fragmented, unorganized logistics services market on the other.
7. With regard to the above point, if the adoption of E-Logistics (seamless Supply Chain integration using ICT), is one of the objectives of credit, then it definitely presents a positive prospect for the lender.

THE NEGATIVES

1. One obvious drawback is the lack of proper infrastructure facilities. When we say Infrastructure we mean, lack of dedicated freight corridors (roads), lack of cargo consolidation centers at the Seaports and Airports and lack of effective Warehousing facilities (Cold Storages in particular).
2. This lack of infrastructure has done no good to the industry itself, as the companies operating in the market don't have the proper facilities which they can feed off, and do more business.
3. E-Commerce, although a booster, may actually, work its effect in the negative manner as well. This is mainly because, the existing e-commerce companies have not been doing well financially and still are a considerable distance from break even. In the light of such circumstances, outsourcing logistics services might be cut down even more. Thus, LSPs might not actually benefit much with the e-commerce boom.
4. The concept of Reverse Charge basis under GST, might put the logistics service aggregators at a disadvantage. However, the complete effect of the above, can only be comprehended once the law is in full force.
5. The over dependence on roads, certainly puts the industry at a disadvantage. Developed economies have minimum dependence on roads (as seen in case of China and U.S.A). However, additional infusion of capital might actually help mitigate the problem.
6. The present state of the Trucking industry is not up to the mark. Efforts towards automating the interactions between Shippers, Transporters and Fleet Owners need to be encouraged.
7. Also, in the short run, the proposed GST implementation may put pressure on the Working Capital cycle of the companies and result in higher short term working capital requirements for them (India Ratings). However, this is only a short term effect.

Overall, we would allot a positive outlook to the industry, on the back of a weak supply situation and a strong demand scenario. As traditional 3PLs strengthen their feet on street capabilities and search for a technological edge, the market will crystallize via strategic acquisitions or partnerships. So, the possibility of mergers and acquisitions taking place, too appears bright.

Once again, there is high possibility of warehouse consolidation with the change in tax regime; this is another reason for the positive outlook given to the Industry. Firms that have been focused on the market and are building businesses with the correct product market fit are slowly and gradually seeing their efforts payoff. The high level of chaos that existed with multiple start-ups using cash as a steroid for growth is now dying out and making way for viable and sustainable business to succeed. This fact further bolsters the positive outlook given to the Transportation and Logistics Industry in the Indian economy.

Now, in order to render completeness to the report, we have applied the framework to Patel Integrated Logistics Limited (a player in the Logistics sector). We will first look at the company profile.

COMPANY SPECIFIC RISK

PILL- Patel Integrated Logistics Limited finds its origin in Patel Roadways Limited, which was promoted by Asgar Patel in 1959. Asgar Patel was himself the loader, driver and delivery boy for the first consignment from Bombay to Delhi. PRL later expanded its business to warehousing and secondary distribution, door-to-door delivery and pick up, thereby providing a one stop solution. It later moved up the value chain, towards express cargo segment with the launch of Patel Retail. With committed transit schedules and an online tracking system, Patel Retail enhanced the consumer experience and added extra convenience. Comprising of a network of 500 stations country wide, investment in IT and a 100% containerized fleet, Patel Roadways alone handles about INR 120 billion worth of cargo (about 5 lakh tones) annually.

In the early 1980s, the retail courier business assumed importance and a need for consolidation of cargo was felt. It was during these conditions, that Patel-On-Board Courier Limited was launched. Later, for strategic reasons, PRL and POBC were merged to form Patel Integrated Logistics Limited (PILL). PILL came for a public issue of equity shares in the year 1994. It offers unified logistics solutions through surface, air and sea transportation and Door-to-Door Express Service all over urban & rural India. It provides services ranging from door pick-ups and deliveries of small packages, to transportation and warehousing as well as distribution. In May 2016, PILL incorporated a new subsidiary –Delivrex – to provide last-mile delivery services for e-commerce companies in Tier II and III cities. The company has also formed a JV with Saudi Arabia's Nationwide Group to form a 3PL logistics company in Middle East. PILL will provide its knowhow, manpower and technology and manage the end-to-end operations of the venture.

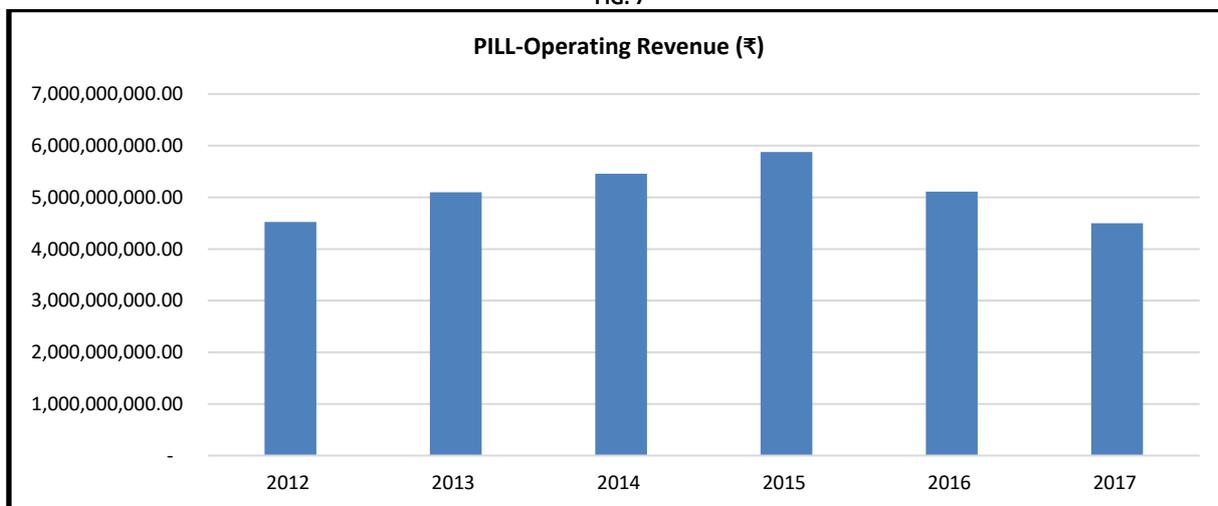
For the financial statement analysis, we have used the Credit Monitoring Arrangement (CMA) Excel template. The following is a summary of the CMA (only those ratios that were considered important for decision making have been considered)-(https://drive.google.com/file/d/0BxKEFn3Nf65xWDF0SkZ6Z010aIU/view)- Link to the CMA.

TABLE 2

PARAMETER (₹ LAKHS)	2012	2013	2014	2015	2016	2017
OPERATING REVENUE	45244.77	50985.83	54579.91	58798.07	51136.32	45011
%CHANGE	0.00	12.69	7.05	7.73	-13.03	-1.20
GROSS PROFIT RATIO (%)	11.47	10.82	9.68	9.83	12.39	
PAT MARGIN (%)	0.59	0.47	0.43	1.02	1.64	1.56
EBITDA	3170.31	3369.87	3108.73	3587.39	3934.58	2149.00
%CHANGE	0.00	6.29	-7.75	15.40	9.68	-45.38
EBITDA MARGIN (%)	7.01	6.61	5.70	6.10	7.69	4.77
CURRENT RATIO	1.72	1.61	1.68	1.76	1.96	
INDEBTEDNESS RATIO (TOL/TNW)	1.10	1.23	1.16	1.09	0.94	
TD/TNW	0.42	0.45	0.45	0.46	0.50	
NCA/TD (%)	20.98	20.44	22.37	31.80	28.37	
DSCR	0.98	0.95	1.08	1.71	1.24	
INTEREST COVERAGE	4.27	3.67	3.40	3.94	4.36	
TD/EBITDA	1.13	1.17	1.26	1.14	1.33	
ROCE (%)	25.00	25.96	24.17	29.33	28.57	
RECEIVABLES TURNOVER(DAYS)	55.83	52.87	44.09	42.02	51.43	
TNW	8579.28	8722.16	8771.11	8824.38	10458.49	
%CHANGE		1.67	0.56	0.61	18.52	

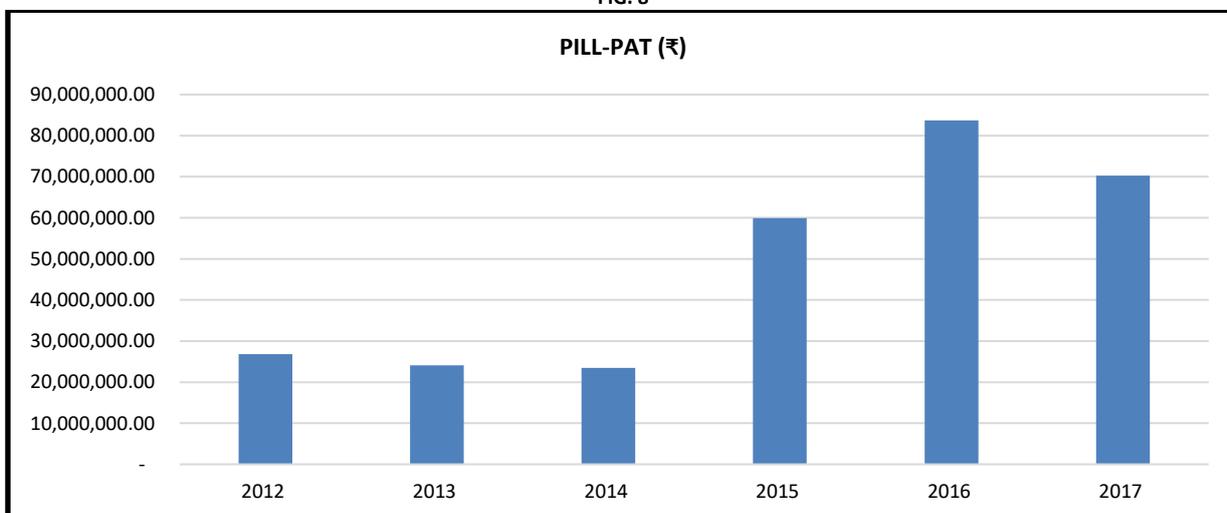
Operating Revenue and PAT- We can clearly see an upward trend in the operating revenue and then a fall in the year 2016 to 2017.

FIG. 7



However, the Profit after Tax of the company has shown the following behavior:

FIG. 8



The PAT as well as PAT margins have shown tremendous improvement. This is a positive for rating of the company.

Traditionally, the services industry has been the one to operate on considerably low margins and the Logistics industry in specific operates on meagre margins. Adding to that, road transportation space, due to the existence of many intermediaries, presents very little profit margins. Given these factors, we can say that PILL is in line with the industry as far as profitability is concerned.

The main reason for reduction in the operating revenue is weeding out of small unprofitable customers by the company, so as to protect its interests in the long run. There is now a shift of focus onto quality customers who can help the company preserve and generate additional value.

OTHER PROFITABILITY INDICATORS

1. EBITDA-The Company has more or less a stable EBITDA margin. However, a major fall was seen in the recently ended financial year. This can be attributed to the impact of demonetization on the company’s business. Demonetization has mainly impacted the unorganized, cash driven sector and the trucking industry is the foremost among them (hence an impact on PILL’s operational profitability is seen). Hence, we can expect the situation to pick up in the following quarters.
2. Return on Capital Employed-The ROCE value is consistently between 25%-30% and it is one of the highest in the indust. Thus, in terms of long term efficiency of capital, PILL can be said to be quite efficient in generating income. ROCE has been calculated using:

$$\text{ROCE (\%)} = \frac{\text{EBIT}}{\text{Capital Employed}} * 100$$

For calculating Capital Employed, we have simply subtracted the Current Liabilities from, the Total Assets. To interpret, for every ₹1 invested in the business, the company made an operational profit of ₹0.25-0.30. Hence, in terms of ROCE too, PILL delivers a good performance.

3. Gross Profit Margin- The trading account profit or the gross profit of PILL is also quite competitive when compared to its industry peers. The Gross Profit margin is consistently between 9.5%-12% of Net Sales. As discussed earlier as well, these margins are in line with the industry of operation, wherein the margins are generally low.

LEVERAGE INDICATORS

1. Indebtedness Ratio (TOL/TNW) - This is the first leverage indicator. The Indebtedness Ratio of PILL has shown a declining trend from 1.23 in 2013 to 0.94 in 2016 (Long-Term borrowing have been declining- Annexure). This speaks well of the company, because it is lesser and lesser dependent on borrowed amounts, and has sufficient capital of its own (TNW). In order to calculate Tangible Net Worth, we have reduced the Net Worth of the company by the portion of Intangible Assets. Thus, PILL ticks another box with regards to its financial performance. In other words, PILL can afford to be more leveraged compared to where it is now.
2. (Total Debt)/TNW- Also commonly referred to as Leverage Ratio, this ratio vindicates what Indebtedness Ratio has shown above. Leverage Ratio consistently hovers between 0.40-0.50. This means that for every ₹1 of PILL owned by the shareholders, PILL owes about ₹0.45 to external lenders (bank borrowings, public deposits, etc.). This goes to show that PILL can afford to take on more debt into its system. For Total Debt we have considered Short Term Debt, Term Loans and Public Deposits and Debentures (if any). This can prove to be one of the deciding factors, when a financial institution looks to grant credit to this company.

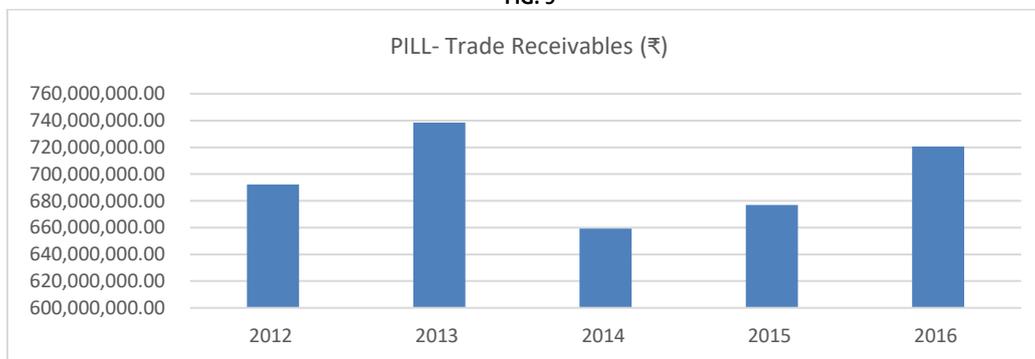
LIQUIDITY INDICATORS

1. Current Ratio- It is taken as one of the liquidity indicator. We observe an unusually high Current Ratio for PILL. In fact the ratio shoots up to close to 2 in 2016, from 1.7 in 2013. On further post mortem, we find that this hike in the value, is mainly on the back of increased cash and cash equivalents and also trade receivables (graph below). This could mean that the collection of receivables is not optimized and hence takes a significantly longer period of time and also there is a sizeable amount of cash in hand (which could lead to idealness). Therefore, a high value of current ratio for PILL, may actually cause problems because of the above mentioned reasons. The following ratio too indicate a similar problem.
2. Trade Receivables Turnover- The turnover of receivables in terms of days is found out to be consistently around 50 days. Although it showed a decline for a couple of years (from 2013 through to 2015), the value shot back again to 51 days in 2016. Also, for the other two companies of our consideration the ratio was found to be less than 30! Hence, we come to the conclusion that PILL may not be efficient enough in collecting what is due to it from the debtors, leading to relatively stressed working capital cycles. We did NOT have a mention of separate credit sales values. Thus, the turnover in days was calculated as:

$$\text{Receivables Turnover (days)} = \frac{365}{\text{Net Sales (\₹)}} * \text{Receivables (\₹)}$$

This delay in collecting dues from its customers may actually lead to increased short-term fund based borrowings and this is exactly what is reflected in the Working Capital borrowings portion of Current Liabilities. There is a significant increase in borrowing from about ₹28.73 cr. in 2015 to about ₹43 cr. in 2016 (increase by about 50%).

FIG. 9



COVERAGE INDICATORS

1. NCA/TD- The total debt to net cash accruals indicates the number of years that firm will take to repay all its debt obligations. Here, we have considered the reciprocal value, i. e, NCA/TD. This is basically done, just for the ease of interpreting percentage values. In case of PILL, a healthy NCA/TD percentage exists, primarily due to increasing cash accruals and a considerably stable level of borrowing. This has in fact been increasing at a good rate too (from about 20% in 2012 to about 31% in 2015). Considering the flip case, PILL would take about 4 years on an average to pay back all its debt (TD/NCA). Hence, this does not present any sort of problem to the company’s existing debt obligations.
2. Interest Coverage Ratio (EBITDA/Interest Charges) - ICR basically represents the cushion which a company has in order to cover its interest charges using the profits it generates from operations. Interest coverage is consequence of a company’s profitability, its level of leverage and its cost of borrowing. We have already seen that PILL is not a highly leveraged firm; in fact its Leverage Ratio is only about 0.50. The same is reflected in its ICR values that hover around 4. This means that PILL’s EBITDA is 4 times its existing Interest and Finance charges. Thus, it can afford to take up additional debt, as the operational profitability is much higher (compared to Interest expense). The ICR fell from 4.27 in 2012 to 3.64 in 2014 (due marginal declines in EBITDA), but has since then picked and reached up to a high of 4.36 in 2016.

3. TD/EBITDA- This ratio indicates a company's ability to pay off its incurred debt. Usually, before giving additional debt, rating bodies look at this ratio, in order to determine if the borrowing company would be able to bear the additional burden of debt or not. We find that, that is precisely the case for PILL. Their TD/EBITDA is consistently around 1, with only marginal changes y-o-y. Therefore, according to this parameter any additional debt given to them should be serviced promptly.
4. DSCR-The Debt Service Coverage Ratio, indicates a company's ability to service its debt obligations, both principal and interest using earnings it generates from operations. Here we have assumed that working capital funding takes higher priority over other payments. We have made use of CRISIL's methodology of DSCR calculation and the formula is as follows:

$$\text{DSCR} = \frac{\text{PAT} + \text{Depreciation}}{\text{Debts payable within one year}}$$

The DSCR values of PILL, have been improving from the year 2012 through to 2015, and a slight fall can be seen in the year 2016. In spite of that, the value is still greater than 1, which shows that PILL is in a position to service its debt obligations in a given year. Also, a majority (95%) of PILL's fund based borrowings are secured and thus there is financial flexibility to service temporary shortfalls in cash accruals. Also, as seen earlier the company's capital position (Net Worth) is quite strong, so temporary reductions in accruals can be managed with relative ease.

We now look at the positives and negatives at a glance-

- ❖ **Rating Positives-** The logistics sector industry is exposed to economic cycles and any slowdown in industrial production, EXIM trade may affect PILL like any other logistics player. However, the asset light nature of operations partially protects the company from economic down cycles. For its road transportation business, the company mainly uses hired trucks and owns only 50 trucks (as on 31-03-2017). Thus, around 90-95% of its fleet requirement is undertaken by hired vehicle which provides flexibility in its business model. Also, as stated earlier extensive experience of management in the field of logistics, adds to the positive aspects of the company. Pan-India presence with diversified end user industry profile and positive outlook on logistics industry driven by e-commerce sector further adds impetus.
- ❖ **Rating Negatives-** The above positives are, however, constrained by low profitability margins (an inherent characteristic of road transportation/ airfreight consolidation business), working capital intensive nature of operations leading to moderate liquidity profile and competitive industry nature along with dependence on economic cycle. An increase in the receivables turnover off late validates this fact (also receivables in absolute terms have been on the rise). Thereby, on account of the long credit period (also the inherent nature of the industry) the company is forced to rely on external borrowing to fund the working capital requirement.

We now have a summary of the merits and the demerits. We would like to say that the company is a fundamentally good one and can be relied upon if supplied with credit by any financial institution. So, the rating outlook assigned would be positive.

CONCLUSIONS

The basic aim of this study was to know, understand and implement a credit rating framework to the Transportation and Logistics industry.

A comprehensive framework was looked at, but some of its aspects could not be applied directly (such as Management Risk, Project Risk), due to paucity of such qualitative and categorical data.

The financial ratio analysis and the Industry Analysis formed the analysis portion.

The Industry as such was found to have a stable outlook, with the government policies and the existing case of inadequate supply, promising to drive the growth mantle further up.

The company considered too (PILL) was found to have a positive outlook.

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