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A REVIEW ABOUT CONSIDERATION AND LEGAL REQUIREMENTS REGARDING CONSIDERATION

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Abstract : Consideration is, in a sense, the price agreed to be paid by the promisee for the obligation of the promisor. Consideration has, therefore, been defined in an English judgment as "some right, interest, profit or benefit accruing to one party (i.e. promisor) or forbearance, detriment, loss or responsibility given, suffered or undertaken by the other (i.e., the promisee)" at the request of the promisor. The word consideration was described in a very popular English case of Currie v. Misa. Section 2(d) defines consideration as follows: " When at the desire of the promisor, the promisee or any other person has done or abstained from doing, or does or abstains from doing or promises to do or abstain from doing something, such an act or abstinence or promise is called consideration for the promise".

(1) That is to say, consideration is the doing or not doing of something which the promisor desires to be done or not done.

(2) Consideration must be at the desire of the promisor.

(3) Consideration may move from promisee or any other person.

(4) Consideration may be past, present or future.

(5) Consideration need not be adequate, but should be real.

LEGAL REQUIREMENTS REGARDING CONSIDERATION

(i) Consideration must move at the desire of the promisor: Consideration must be offered by the promisee or the third party at the desire or request of the promisor. An act done at the desire of a third party is not a consideration.

(ii) Consideration from promisee or any other person: In India, consideration may proceed from the promisee or any other person who is not a party to the contract. The definition of consideration as given is Section 2(d) makes that proposition clear. According to the definition, when at the desire of the promisor, the promisee or any other person does something such an act is consideration. In other words, there can be a stranger to a consideration but not stranger to a contract.

(iii) Executed and executory consideration: A consideration which consists in the performance of an act is said to be executed. When it consist in a promise, it is said to be executory. The promise by one party may be the consideration for an act by some other party, and vice versa.

(iv) Past Consideration: The words "has done or abstained from doing" [as contained in Section 2(d)] are a recognidon of the doctrine of past consideration. In order to support a promise, a past consideration must be moved by a previous request. It is the general principle that consideration is given and accepted in exchange for the promise. The consideration, if past, may be the motive but cannot be the real consideration of a subsequent promise. But in the event of the services being rendered in the past at the request or the desire of the promisor, the subsequent promise is regarded as an admission that the past consideration was not gratuitous.

(v) Adequacy of consideration: Consideration need not to be of any particular value. It need not be approximately of equal value with the promise for which it is exchanged but it must be something which the law would regard as having some value.

It may be noted in this context that Explanation 2 to Section 25 states that an agreement to which the consent of the promisor is freely given is not void merely because the consideration is inadequate.

(vi) Performance of what one is legally bound to perform: The performance of an act by a person who is legally bound to perform the same cannot be consideration for a contract. Hence, a promise to pay money to a witness is void, for it is without consideration. Hence such a contract is void for want of consideration. Similarly, an agreement by a client to pay to his counsel after the latter has been engaged, a certain sum over and above the fee, in the event of success of the case would be void, since it is without consideration.

But where a person promises to do more that he is legally bound to do, such a promise provided it is not opposed to public policy, is a good consideration.

(vii) Consideration must be real and competent: Consideration must be real and must also be competent. It must be something to which the law attaches some value.

(viii) Consideration must not be unlawful, immoral, or opposed to public policy.

SUIT BY A THIRD PARTY ON AN AGREEMENT

Though under the Indian Contract Act, 1872 the consideration for an agreement may proceed from a third party, the third party cannot sue on agreement. Only a person who is party to a contract can sue on it.

Thus, the concept of stranger to consideration is a valid and is different from stranger to a contract which means contract by the person who is not a party to the contract.

The aforesaid rule, that stranger to a contract cannot sue is known as a "doctrine of privity of contract", is however, subject to certain exceptions. In other words, even a stanger to a contract may enforce a claim in the following cases:

(1) In the case of trust, a beneficiary can enforce his right under the trust, though he was not a party to the contract between the settler and the trustee.

(2) In the case of a family settlement, if the terms of the settlement are reduced into writing, the members of family who originally had not been parties to the settlement may enforce the agreement.

It has already been discussed that an agreement results from a proposal by one party and its acceptance by another. We have already discussed offer, acceptance and consideration in detail. We shall now discuss in detail the elements which constitute a valid contract enforceable in law.

Section 10 of the Indian Contract Act provides that an agreement in order to be a contract, must satisfy the following conditions:

(1) it must be made by the free consent of the parties;
(2) the parties must be competent to contract;
(3) it must be made for a lawful consideration and with a lawful object;
(4) it should not have been expressly declared as void by law.

Also, there must be consensus ad idem or identity of minds in the sense that parties have agreed about the subject matter of the contract at the same time and in the same sense, as evidenced by offer and acceptance (Section 13). It has also been observed that the agreement must import an intention to create legal relationship between the parties, and that agreements relating to social matters are not enforceable by law.

FREE CONSENT

According to Section 13, " two or more persons are said to have consen ted when they agree upon the same thing in the same sense (Consensus-ad-idem). Consequently, when parties to a contract make some fundamental error as to the nature of the transaction, or as to the person dealt with or as to the subject-matter of the agreement, it cannot be said that they have agreed upon the same thing in the same sense. And if they do not agree in the same sense, there cannot be consent. A contract cannot arise in the absence of consent.

If two persons enter into an apparent contract concerning a particular person or ship, and it turns out that each of them, misled by similarity of name, had a different person or ship in his mind, no contract would exist between them as they were not ad idem, i.e., of the same mind. Again, ambiguity in the terms of an agreement, or an error as to the nature of any transaction or as to the subject-matter of any agreement may prevent the formation of any contract on the ground of absence of consent. In the case of fundamental error, there is really no consent whereas, in the case of mistake, there is no real consent.

Conclusion : As has been said already, one of the essential elements of a contract is consent and there cannot be a contract without consent. Consent may be free or not free. Only free consent is necessary for the validity of a contract. Consent is free when it is not caused by coercion, undue influence, fraud, misrepresentation or mistake (Section 14). When consent is not caused by any of these factors, it is said to have been freely given. When consent is not free due to mistake, the agreement is void but in all other cases, the contract is voidable at the option of the party whose consent was obtained by coercion, etc.

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A STUDY OF INDUSTRIAL POLICY RESOLUTION

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Abstract

In order to reduce widespread and persistent poverty in developing countries, we have to develop labor-intensive industries to provide ample employment opportunities for the poor. Yet the term "industrial policy" is synonymous with "undesirable policy" for many economists and policymakers, as the policies implemented to support industrialization in the 1960s and 1970s were so unsuccessful. Such policies were highly interventionist without carefully considering market failure. In contemplating appropriate policies, it is critically important to recognize that there are many types of market failures in industrial sectors because of (1) the high transaction costs arising from imperfect contract enforcement and information asymmetry about the quality of final products, raw materials, and parts, as well as the quality and work attitude of employees, (2) spillovers of technological and managerial information from innovators to imitators, (3) underinvestment in human capital due to credit constraints and uncertainty, (4) underinvestment in public goods, such as roads, electricity, and communication systems, and (5) imperfect credit markets due to adverse selection, moral hazard, and incomplete contracts. We believe that the heart of the question is how we can reduce such market failures so as to stimulate the development of industries. The ultimate purpose of this book is to formulate effective policies to promote industrial development – we call this "industrial development policy," as distinct from "industrial policy."

Keywords: Industrial Policy

Meaning of Industrial Policy:

Any government action aimed at affecting industry may be considered to be part of industrial policy, which makes it a limitless field.

It usually means government action to influence the ownership and structure of industry and its performance and it takes the form of paying subsidies or providing finance in other ways, or of regulation.

It excludes macroeconomic policies affecting industry, but it may be viewed as supporting macroeconomic policy by improving the performance of an important part of the supply side of the economy as a whole. The concept is, thus, a comprehensive one. It includes procedures, principles (i.e., the philosophy of a given economy), policies, rules and regulations, incentives and punishments, the tariff policy, the labour policy, government's attitude towards foreign capital, etc.

A country must formulate industrial policy as an instrument of industrialization. The public sector may be invited to implement industrial policy. In a country like India, where private sector is allowed to coexist in business, its control and regulation is necessary. Industrial policy is a necessary step in this direction.

Industrial Policy Resolution of 1948:

In a mixed economy of our sort, the government should declare its industrial policy clearly indicating what should be the sphere of the State and of the private enterprise. A mixed economy means co-existence of the two sectors public and private. This the Government of India did by a policy resolution on 30 April 1948 called the first Industrial Policy Resolution of 1948, which made it clear that India was going to have a mixed economy.

The Industrial Policy Resolution, 1948, drawn in the context of our objectives of Democratic Socialism through mixed economic structure, divided the industrial structure into four groups:

1. Basic and strategic industries such as arms and ammunition, atomic energy, railways, etc., shall be the exclusive monopoly of the State.

2. The second group consisted of key industries like coal, iron and steel, ship-build-in, manufacture of telegraph, telephone, wireless apparatus, mineral oils, etc. In such cases the State took over the exclusive responsibility of all future development and the existing industries were allowed to function for ten years after which the State would review the situation and explore the necessity of nationalization.

3. In the third group, 18 industries including automobiles, tractors, machine tools, etc., were allowed to be in the private sector subject to government regulation and supervision.

4. All other industries were left open to the private sector. However, the State might participate and/or intervene if circumstances so demanded.

To ensure the supply of capital goods and modern technology, the 1PR1948, encouraged the free flow of foreign capital. The Government ensured that there would be no discrimination between Indian and foreign undertakings; facilities would be given for remittance of profit and due compensation would be paid in case a foreign undertaking was nationalized. The IPR also emphasized the importance of small-scale and cottage industries in the Indian economy.

The Industries (Development and Regulation) Act was passed in 1951 to implement the Industrial Policy Resolution, 1948.

The features of the new policy that distinguishes it from the previous one are:

1. Expansion of the role of the State:

This was in keeping with the Mahalanobis Strategy of large-scale industrialization embodied in the Second Five Year Plan.

2. Reduced threat of nationalization:

The apprehensions of nationalization contained in the previous policy were reduced to the bare minimum.

3. More meaningful approach to our concept of a 'mixed economy': Various complementariness of the public and private sectors were made clear.

Industrial Policy of 1991:

The long-awaited liberalised industrial policy was announced by the Government of India on 24 July 1991. There are several important departures in the latest policy. The New In¬dustrial Policy has scrapped the asset limit for MRTP companies and abolished industrial li¬censing of all projects, except for 18 (now 5) specific groups. It has raised the limit for foreign participation of foreign capital in the country's industrial landscape.

The new policy has dismantled all needless irksome bureaucratic controls on industrial growth. The new policy has re-defined the role of the public sector and has asked the private sector to operate even in those areas which were hitherto reserved for the public sector.

Thus, the new policy considers that big and monopoly business houses and foreign capital and multinational corporations (MNCs) are no longer "fearsome" and, in fact, they are benign to the country's industrial growth. Anyway, the new policy has decided to take a series of initiatives in respect of the policies relating to the following areas: (a) industrial

licensing, (b) MRTP Act, (c) public sector policy, (d) foreign investment, and (e) foreign technology agreements.

The highlights of the new policy are:

1. Industrial licensing will be abolished for all projects except for a short list of industries (18 selected sectors mentioned in Annexure II). The exemption from licensing will apply to all substantial expansion of existing units. The existing and new industrial units will be provided with a broad banding facility to enable them to produce any article so long as no additional investment in plant and machinery is involved.

2. However, the small-scale industries taking up manufacture of those products reserved for small sector will not be subjected to compulsory licensing procedures. As a result, all existing registration schemes (like relicensed registration, exempted industries registration, DGTD registration) will be abolished. Now, entrepreneurs are required to fill an information memorandum of new projects and substantial expansion.

3. The policy provides for automatic clearance for import of capital goods in cases where the foreign exchange availability is ensured through foreign equity.

4. As for the MRTP Act, the policy states that the pre-entry scrutiny of investment decisions by the so-called MRTP companies will no longer be required.

5. The policy intends to scrap the asset limit of the MRTP companies.

6. The policy envisages disinvestment of government equity in public sector to mutual funds, financial institutions, general public and workers. For the first time, sick public units has come under the purview of the Board of Industrial and Financial Reconstruction (BIFR) for their revival. A social security mechanism to protect workers' interests in such affected public sectors has been proposed in this policy. Pre-eminent place of public sector in 5 core areas like arms and ammunition, atomic energy, mineral oils, rail transport and mining will, however, continue.

   Reservation for the public sector, as on 2008, is very limited (just 2)—covering only manufacturing involving certain substances relevant for atomic energy (as well as production of atomic energy) and provision of railway transport.
7. In order to invite foreign investment in high priority industries, requiring large investments and advanced technology, it has been decided to provide approval for direct foreign investment up to 51 p.c. foreign equity in such industries.

8. In a departure from the present vocational policy for industries, the policy provides that in locations other than cities of population of more than one million, there will be no requirement for obtaining industrial approvals except for industries subject to compulsory licensing.

Conclusion

The default policy recommendation is still the market. The emphasis of reform has switched to institutions that will allow the market to perform more efficiently. Given the weakening theoretical and empirical foundations for market-based solutions, the assumption that state failure is always worse than market failure needs to be reconsidered.

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A STUDY OF PRINCIPLES OF ORGANIZATION DESIGN

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Abstract
Organisational design ensures that, in terms of performance, work activities are in line with the company's strategy. This is applied at every level of the organisation – from corporate layers to functional subunits. To plan an effective design will require trade-offs at all levels. In addition, there is never a single best design for any company or function. All designs have inherent strengths and weaknesses, and all companies have different capabilities and strategic positions. Therefore, good organisational design is finely tailored to deliver the company's competitive strategy through enabling its work activities. The design can be evaluated with specific criteria – these include the strategic initiatives and critical operational capabilities it should enable.

Keywords: Organization, design, company, performance

Principles of Organization Design

A global electronics manufacturer seemed to live in a perpetual state of re-organization. Introducing a new line of communication devices for the Asian market required reorienting its sales, marketing, and support functions. Migrating to cloud-based business applications called for changes to the IT organization. Altogether, it had reorganized six times in 10 years.

1. Declare amnesty for the past. Organization design should start with corporate self-reflection: What is your sense of purpose? How will you make a difference for your clients, employees, and investors? What will set you apart from others, now and in the future? What differentiating capabilities will allow you to deliver your value proposition over the next two to five years?

2. Design with "DNA." Organization design can seem unnecessarily complex; the right framework, however, can help you decode and prioritize the necessary elements. We have identified eight universal building blocks that are relevant to any company, regardless of industry, geography, or business model. These building blocks will be the elements you put together for your design.

3. Fix the structure last, not first. Company leaders know that their current org chart doesn't necessarily capture the way things get done — it's at best a vague approximation. Yet they still may fall into a common trap: thinking that changing their organization's structure will address their business's problems.

4. Make the most of top talent. Talent is a critical but often overlooked factor when it comes to org design. You might assume that the personalities and capabilities of existing executive team members won't affect the design much. But in reality, you need to design positions to make the most of the strengths of the people who will occupy them. In other words, consider the technical skills and managerial acumen of key people, and make sure those leaders are equipped to foster the collaboration and empowerment needed from people below them.

5. Focus on what you can control. Make a list of the things that hold your organization back: the scarcities (things you consistently find in short supply) and constraints (things that consistently slow you down). Taking stock of real-world limitations helps ensure that you can execute and sustain the new organization design.

6. Promote accountability. Design your organization so that it's easy for people to be accountable for their part of the work without being micromanaged. Make sure that decision rights are clear and that information flows rapidly and clearly from the executive committee to business units, functions, and departments. Our research underscores the importance of this factor: We analyzed dozens of companies with strong execution and found that among the formal building blocks, information and decision rights had the strongest effect on improving the execution of strategy. They are about twice as powerful as an organization's structure or its motivators.

7. Benchmark sparingly, if at all. One common misstep is looking for best practices. In theory, it can be helpful to track what competitors are doing, if only to help you optimize your own design or uncover issues requiring attention. But in practice, this approach has a couple of problems.

8. Let the "lines and boxes" fit your company's purpose. For every company, there is an optimal pattern of hierarchical relationship — a golden mean. It isn't the same for every company; it should reflect the strategy you have chosen, and it should support the critical capabilities that distinguish your company. That means that the right structure for one company will not be the same as the right structure for another, even if they're in the same industry.

In particular, think through your purpose when designing the spans of control and layers in your org chart. These should be fairly consistent across the organization.

9. Accentuate the informal. Formal elements like structure and information are attractive to companies because they're tangible. They can be easily defined and measured. But they're only half the story. Many companies reassign decision rights, rework the org chart, or set up knowledge-sharing systems — yet don't see the results they expect.

10. Build on your strengths. Overhauling the organization is one of the hardest things for a chief executive or division leader to do, especially if he or she is charged with turning around a poorly performing company. But there are always strengths to build on in existing practices and in the culture. Suppose, for example, that your company has a norm of customer-oriented commitment. Employees are willing to go the extra mile for customers when called upon to do so. They deliver work out of scope or ahead of schedule, often because they empathize with the problems customers face. You can draw attention to that behavior by setting up groups to talk about it, and reinforce the behavior by rewarding it with more formal incentives. That will help spread it throughout the company.

Conclusion

A 2014 Strategy& survey found that 42 percent of executives felt that their organization was not aligned with the strategy, and that parts of the organization resisted it or didn't understand it. If that's a familiar problem in your company, the principles in this article can help you develop an organization design that supports your most distinctive capabilities and supports your strategy more effectively.

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A STUDY OF MARKETING MANAGEMENT CONCEPTS AND FUNCTIONS

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Abstract:
The alternatives to marketing orientation are identified, the requirements for marketing orientation examined and the differences between the marketing concept and the functional implementation distinguished. The required tasks and operations of a marketing- oriented organisation and the present limited adoption of the concept as compared with the functions of marketing are explained.

Keywords: Auditing, Marketing, Marketing audit, Market segmentation

Introduction:

The marketing concept is the strategy that firms implement to satisfy customer's needs, increase sales, maximize profit and beat the competition. There are five marketing concepts that organizations adopt and execute.

Marketing is a department of management that tries to design strategies that will build profitable relationships with target consumers. But what philosophy is the best for a company in setting marketing strategies?

There are five alternative concepts under which organizations design and carry out their marketing strategies.

- Production Concept,
- Product Concept,
- Selling Concept,
- Marketing Concept,
- Societal Marketing Concept.

These concepts are described below;

Production Concept

According to the production concept, a company should focus on those items that it can produce most efficiently and also focus on creating supply of low-cost items that create the demand for the products.

The key questions that a company needs to ask itself before producing an item are −

- Can we produce the item?
- Can enough of it be produced?

This concept worked fairly during the 1920s as the items that were produced were largely those of basic necessity and there was a relatively high level of unfulfilled demand. Virtually everything that could be produced was sold easily by a sales team whose task was to complete the transactions at a price fixed by the cost of production. All in all, this concept prevailed until the late 1920's.

Selling Concept

According to this concept, the companies would not only produce the items but would also try to convince customers to buy them through advertising and personal selling. Before producing a product, the key questions were −

- Can we sell the item?
- Can we account enough for it?

Marketing Concept

The marketing concept relies upon marketing studies to define market segments, their size, and their requirements. To satisfy those requirements, the marketing team makes decisions about the controllable parameters of the marketing mix.

This concept was introduced after World War II as the customers could afford to be selective and buy only those items that precisely met their changing needs and these needs were not immediately obvious. The key questions changed to −

- What do customers actually want?
- Can we improve it while they still want it?
- How can we keep the customers satisfied?

In reply to these discerning customers, companies began to adopt marketing concepts, which includes −

- Focusing on customer requirements before developing a product
- Aligning all operations of the company to focus on those needs
- Realizing a gain by successfully satisfying customer needs over the long-term

When companies began to adopt this concept, they actually set up separate marketing departments whose objective was to satisfy customer needs. Mostly, these departments were sales departments with expanded responsibilities. While this widened sales department structure can be found in some enterprises today, many of them have structured themselves into marketing organizations having a worldwide customer focus.

Societal Marketing Concept

Societal marketing concept questions whether the pure marketing concept overlooks possible conflicts between consumer short-run wants and consumer long-run welfare.

The societal marketing concept holds "marketing strategy should deliver value to customers in a way that maintains or improves both the consumer's and society's well-being".

It calls for sustainable marketing, socially and environmentally responsible marketing that meets the present needs of consumers and businesses while also preserving or enhancing the ability of future generations to meet their needs.

The Societal Marketing Concept puts the Human welfare on top before profits and satisfying the wants.

The global warming panic button is pushed and a revelation is required in the way we use our resources. So companies are slowly either fully or partially trying to implement the societal marketing concept.

Marketing Management Functions

The term functions of marketing management means the main role of this type of management in any organization.

Selling

Selling is the crux of marketing. It involves convincing the prospective buyers to actually complete the purchase of an article. It includes transfer of ownership of products to the buyer.

Selling plays a very vital part in realizing the ultimate aim of earning profit. Selling is groomed by means of personal selling, advertising, publicity and sales promotion. Effectiveness and efficiency in selling determines the volume of the firm's profits and profitability.

Buying and Assembling

It deals with what to buy, of what quality, how much from whom, when and at what price. People in business purchase to increase sales or to decrease costs. Purchasing agents are much tempted by quality, service and price. The products that the retailers buy for resale are selected as per the requirements and preferences of their customers.

Assembly line is an arrangement of employees and machines in which each individual has a particular job and the work is passed directly from one employee to the next until the product is complete.

Transportation

Transportation is the physical means through which products are moved from the places where they are produced to those places where they are needed for consumption. It creates locational utility.

Transportation is very important from the procurement of raw material to the delivery of finished products to the customer's places. Transportation depends mainly on railroads, trucks, waterways, pipelines and airways.

Storage

It includes holding of products in proper, i.e., usable or saleable, condition from the time they are produced until they are required by customers in case of finished products or by the production department in case of raw materials and stores.

Storing protects the products from deterioration and helps in carrying over surplus for future consumption or usage in production.

Standardization and Grading

Standardization means setting up of certain standards or specifications for products based on the intrinsic physical qualities of any item. This may include quantity like weight and size or quality like color, shape, appearance, material, taste, sweetness etc. A standard gives rise to uniformity of products.

Financing

Financing involves the application of the capital to meet the financial requirements of agencies dealing with various activities of marketing. The services to ensure the credit and money needed and the costs of getting merchandise into the hands of the final user are mostly referred to as the finance function in marketing.

Risk Taking

Risk means loss due to some unforeseen situations. Risk bearing in marketing means the financial risk invested in the ownership of goods held for an anticipated demand, including the possible losses because of fall in prices and the losses from spoilage, depreciation, obsolescence, fire and floods or any other loss that may occur with the passage of time.

Market Information

The importance of this facilitating function of marketing has been recently marked. The only sound foundation on which marketing decisions depend is timely and correct market information.

The importance of this facilitating function of marketing has been recently marked. The only sound foundation on which marketing decisions depend is timely and correct market information.

Conclusion

The five marketing concepts are a good example of how marketing has changed throughout the years. It has shifted its focus from products to users.

Modern companies have to put users first, and build not only a good product (or service), but also a good experience around it. If you need help with creating marketing strategy, contact us today and we'll be glad to help you.

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RECENT DEVELOPMENT IN FINANCIAL SYSTEM: A STUDY OF INDIAN ECONOMY

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ABSTRACT: India features a financial framework that's controlled by autonomous regulators within the segments of insurance, banking, capital markets and different administrations divisions. In all these divisions of financial system Government of India acted as the monitoring authority. Ministry of Finance, Government of India maintained monetary division in India. Financial markets are segments in which stocks, different securities, supplies, and compatible products are exchanged at costs serve as the pointers of demand and supply in the market. Reserve bank of India built up in 1935 is the Central bank of the country. RBI is controller for banking, budgetary and financial framework defines monetary policy and endorses business control standards. India had its Central bank, commercial banks, regional rural banks and co-operative banks.
The Reserve Bank of India also had a major aim of helping in the programmed procedure of improvement of the Indian economy. Moreover, it encourage the conventional central banking functions, with the propelling of the five-year plans within the nation, the Reserve Bank of India had been going towards in executing a provider of advancing, improve mental and positive activities, which are ordinarily exterior the examination of a traditional Central Bank. The commercial banking division incorporates private banks, public division banks and foreign banks. Non-banking Financial institutions give credits and hire-purchase fund, generally for retail resources and are regulated by RBI. Insurance segment of India had been generally prevailed by state retained Life insurance organization and General insurance organization and its four sectors.

Keywords: financial system, Indian economy, commercial banks, Reserve bank of India, Non-banking Financial Corporation.

INTRODUCTION:

A financial system may be a framework that permits the exchange of money between loan specialists, investors, and debtors. Monetary frameworks work at national, worldwide, and firm-specific levels. They comprised of typically difficult, sharply linked to administrations, markets, and organizations aiming to supply an essential and normal connection between financial specialists and creditors. Money, leasing, and fund are utilized as transmitting of trade in monetary frameworks. They perform as a center of familiar esteem for which products and services can be traded as an elective to bargaining. A cutting edge financial framework may incorporate banks monetary markets, monetary tools and financial facilities. Monetary frameworks permit reserves to be designated, contributed, or moved between financial divisions. They empower people and corporations to divide the related threat.

OBJECTIVES:

- ✓ To clarify the elements of a financial framework.
- ✓ To describe the recent improvements in Indian financial system.
- ✓ To clarify significance, aims, purpose and characteristics of the monetary system.

RESEARCH METHODOLOGY:

The study is theoretical in nature. The study includes the secondary data which was collected from secondary sources like reports of financial institutions, journal, websites magazines etc.

A. ELEMENTS OF A FINANCIAL FRAMEWORK:

- **Financial organizations:**

Financial organizations impart monetary facilities for federations and customers. Banks are monetary conciliators that give loan to borrowers to produce income. They are regularly monitored sternly, because they give market solidness and customer security. Banks consist:

✓ Central banks
✓ Commercial banks
✓ Co-operative banks
✓ Public sector banks
✓ Private sector banks
✓ State owned land development banks
✓ Stated owned co- operative banks

- **Non-Banking Financial organizations:**

Non-banking monetary organizations encourage monetary administrations like venture, threat distribution and market bargaining. They regularly don't have complete banking licenses and are not regulated by a bank instruction organization. Non-banking financial organizations consist:

✓ Insurance organizations
✓ Mutual fund
✓ Products brokers
✓ Finance and credit organizations

- **Financial markets:**

Financial markets are divisions in which stocks, different securities, supplies, and compatible products are exchanged at costs serve as the pointers of demand and supply. The term market coherently implies the organization of total trades of feasible clients and providers of these products.

- **Primary market:**

The Primary market by and large notices to modern and fresh issues of different securities like stocks, bonds, or other money related securities. Primary market apportioned into two fragments:

✓ Capital market
✓ Money market

- **Secondary market:**

The Secondary market alludes to exchanges in financial rebellious that were mainly provide:

- ✓ Financial framework
- ✓ Cash instruments
- ✓ Financial facilities
- ✓ Derivatives

B. SIGNIFICANCE OF INDIAN FINANCIAL FRAMEWORK:

- ✓ It helps in expanding the national yield of the nation by giving finance to corporate clients to increase their particular trade.
- ✓ It assists to empower the improvement of weaker segment of the nation with help of provincial development banks and co-operative banks.
- ✓ It increases the amount and volume of reserve funds through arrangement of numerous financial mechanisms and constructive circulation of reserve funds.
- ✓ It secures the interface of stockholders and affirms effortless financial exchanges through administrative organizations such as RBI, SEBI, etc.
- ✓ It assists corporate clients to form superior monetary choices by giving dynamic budgetary along with elective administrations.
- ✓ It alludes to expanding number of supporters within the financial framework.
- ✓ It assists financial and economical improvement and improving the normal of living standard of individuals.
- ✓ It alludes to the increment in monetary resources as an extent of GDP.
- ✓ It helps in budgetary depending and widening.

• CHARACTERISTICS OF INDIAN FINANCIAL FRAMEWORK:

- ✓ It assists in capital development.
- ✓ It helps in money related depending and protracting.
- ✓ It performs a crucial task of financial and economical improvement of a nation.
- ✓ It empowers both investments and reserve funds.
- ✓ It assists in divisions of threat.
- ✓ It relates the borrowers and money lenders.
- ✓ It encourages the broadening of monetary markets.

• AIMS OF THE RESERVE BANK OF INDIA:

- ✓ Earlier to the foundation of the Reserve Bank, the Indian monetary framework was completely insufficient on account of the inalienable shortcoming of the double regulation of money by the Central Government and credit by the Imperial Bank of India.
- ✓ To direct the issue of currency notes and the security of funds with an insight to shielding financial steadiness in India and normally to function the money and credit framework of the nation to its advantage.
- ✓ A main aim of the Reserve Bank of India had been to help the scheduled procedure of advancement of the Indian economy.

- ✓ The Hilton-Young Commission prescribed that the restriction of capacities and sharing of duties for monitoring of cash and credit and diverging approaches in this regard must be finished by establishment of a central bank called Reserve Bank of India which would control the monetary arrangement and improving the banking administrations all through the nation.
- ✓ To assist the conventional central banking activities, with the starting of the five-year plans within the nation, the Reserve Bank of India had been moving towards in playing a parent of improvement, formative and promotional activities, which are regularly exterior to the domain of a conventional Central Bank.
- ✓ The other aim of the Reserve Bank had to persevere gratis from any kind of political impact and be in effective function of preserving monetary soundness and loan. The elemental aim of the Reserve Bank of India is to salvation completely central banking activities within the Indian financial market like to act as the bank note providing power, bankers' bank and investor to government, and to empower the development of the economy inside the structure of the all inclusive financial approach of the Government, steady with the requirement of support of price soundness.

- **PURPOSE OF THE RESERVE BANK OF INDIA:**

The Reserve Bank of India executes all the ordinary activities of a great Central Bank. In expansion, it consist a range of creating and limited time activities concurred to the course of financial determining within the nation:

- ✓ Issuing cash notes and also act as a cash authority
- ✓ Exports
- ✓ Constructing finance
- ✓ Financial direction and administration
- ✓ Acting as a financer of government
- ✓ Trade administration and monitoring
- ✓ serving as bankers' bank and administrator
- ✓ Collection of information and their publication
- ✓ Organization progression
- ✓ Different formative and publicizing capacities and exercises.
- ✓ Cultivated Finance.

C. RECENT DEVELOPMENT IN INDIAN FINANCIAL FRAMEWORK:

India features a financial that is monitored by autonomous controllers within the segments of insurance, banking, capital markets and different administrations segments. In a number of divisions of Government India of performs the duty of regulator. Government of India maintains monetary segment in India. Ministry of Finance, each year shows yearly temperate on February 28 within the Parliament. The yearly budget suggests alterations in tax rates, modifications in government arrangement in nearly all the divisions and financial and other allotments for all the Ministries of Government of India. Following are the developments in Indian financial system:

- **GOVERNMENT TO ESTABLISH INDEPENDENT PAYMENTS REGULATORY BOARD IN RBI:**
  Finance minister had suggested forming a six-member autonomous Payments Regulatory Board (PRB) within the Reserve Bank of India, in arranging to conduct basic changes within the settlement and payment framework. For the reason, essential revisions had been suggested within the Finance Bill 2017 to make a Payments Regulatory Board within the Reserve Bank of India by restoring the present Board for Regulation and Supervision of Payment and Settlement Systems (BPSS). According to the Finance Bill, the Reserve Bank of India will be the assigned specialist for the direction and supervision of Payment frameworks.

- **THE CONSTITUTIONAL LEGITIMACY OF THE AADHAAR PLAN MAINTAINED BY SUPREME COURT:**
  From presently onwards, Aadhaar will not be required for opening accounts in banks, receiving a phone association or taking admissions in schools as per the constitutional legitimacy of the Aadhaar conspire maintained by Supreme Court. Aadhaar holder's information will not be unveiled on the grounds of national safety and security.

- **IRDAI EMIGRATE TO RISK-BASED CAPITAL ADMINISTRATION:**
  Topmost Insurance regulator IRDAI had chosen to step towards the risk-based capital (RBC) administration in arrangement to progress assurance for policyholders. This movement in administration was happened since of the rationale that current solvency Based Regulations were not supportive in surveying whether the capital retained is satisfactory sufficient for the dangers characteristic within the insurance trade. But, on the off chance that risk-based capital framework is there, at that point extra capital will not stay sit out of gear.

- **NPCI: ECONOMIC TIMES AWARDS 2018 OF CHANGE AGENT OF THE YEAR:**
  National Payment Corporation of India had admired with Economic Times Award 2018 for Change agent of the year. Extending from making the National Monetary Switch for all Automated Teller Machines exchanges and a centralized cheque clearance instrument to the IMPS moment bank-to-bank finance exchange and mobile phone depended Unified Payments Interface (UPI), NPCI is a corporation to serve the diverse payments needs of the Indian population.

- **RBI TO CONDUCT OMO TO IMPLANT LIQUIDITY:**
  Based on the evaluation of present liquidity situations within the economy of nation, the Reserve Bank had chosen to regulate the acquisition of government securities beneath open market operations for a total sum of Rs 100 10,000 crore. Open market operation could be

a financial approach device utilized by central bank to either infuse or deplete liquidity from the economy. In the event that there's overabundance liquidity, the RBI utilizes to deal out marketable securities and imbibes the rupee liquidity. Additionally, when the liquidity situations are not so good, it begins obtaining securities through open market operations, in this manner discharging cash into the market.

- **RESERVE BANK ENDORSES PERMIT FOR PAY U TO OPEN NBFC ARM:**
  PayU India has gotten a permit or license from the Reserve Bank of India to function its non-banking monetary corporation, an improvement that will give an enormous growth to the fintech in developing its client credit trade. Pay U India, which clears month to month installments of almost Rs 8,000 crore, determines as it were almost 2% of its in general income from its credit trade presently and Flipkart-owned PhonePe had too partnered with Pay U to induce enrolled as a installment method for all producers utilizing the installment door for online exchanges.

- **TWENTY LAKH INDIVIDUALS CONNECT ADJUSTED JANDHAN PLAN, TOTALLING ACCOUNT HOLDERS TO 32.61 CRORES:**
  According to the most recent information provided by the Finance Ministry, twenty lakh individuals had enrolled themselves in the altered Pradhan Mantri Jan Dhan Yojna (PMJDY), picking the whole total of account holders in this chief financial consideration scheme to 32.61 crore. The Government of India prior this month reintroduced PMJDY as an flexible conspire with high insurance cover and pairs the overdraft service. Under the patched up conspire, accidental insurance cover for modern RuPay card holders had reexamined and increased from Rs 1 lakh to Rs 2 lakh.
  The present Overdraft restrain of Rs 5,000 had expanded to Rs 10,000 where no constraints will be joined for overdraft up to Rs 2,000.PMJDY was propelled in Admirable 2014, the primary stage of which concerned on opening fundamental bank accounts and RuPay charge card with default accident insurance cover of Rs 1 lakh. Stage II started in August 15, 2018 to supply micro-insurance to the individuals and pension plans to laborers of unsystematic division through trade contributors. It is imperative to consider that approximately 53% of PMJDY account holders are ladies, whereas 83% of the whole accounts are implanted with Aadhaar.

- **DBS BANK: BEST BANK WITHIN THE WORLDWIDE:**
  DBS Bank had won the esteemed Best Bank award by Global Finance in its World's Best Worldwide Banks 2018 awards. DBS bank is progressively picking up universal acknowledgment and stature on the world platform, especially for its authority in computerized alteration. Moreover, in July 2018, the bank was delegated World's Best Computerized Bank by Euromoney for the second time in a long time period of three years. DBS may be a chief financial administrations group in Asia, which had 280 branches over the globe with its Headquartered in Singapore. The bank had moreover been

called as the "Safest Bank in Asia" by Global Finance for nine successive years from 2009 to 2017.

- **PM PROPELLED THE INDIA POST PAYMENTS BANK (IPPB) IN NEW DELHI:** Prime Minister Narendra Modi had propelled the long anticipated India Post Payments Bank in arrangement to guarantee monetary incorporation for the people. The occasion was organized at Talkatora Stadium in New Delhi. IPPBs will have 650 branches within the nation to supply an available, reasonable and reliable bank for the common individual. The Government has 100% equity in IPPBs additionally all the 1.55 lakh post workplaces within the nation will be connected to the IPPB framework by December 31, 2018. IPPB will offer a huge assortment of services consisting current account, cash exchange, saving account, direct benefit exchanges, utility and bill installments, merchant installments and enterprise installments. Cabinet had affirmed the 80% increment in investing for IPPB to fulfill forcefully with present players like Paytm Payments Bank and Airtel Bank.

- **RBI TO MAKE ADMINISTRATIVE SANDBOX FOR FINTECH AND TO SETP UP INFORMATION SCIENCE LAB:** The Reserve Bank of India had determined to establish a regulatory sandbox for financial technology (fintech) and establishing information science labs in order to retain tempo with technology in the digital lending area.

- **VIJAYA BANK, BANK OF BARODA AND DENA BANK MERGER: PROPOSITION TO MAKE SECOND BIGGEST PSU BANK:** Government has chosen to blend the three PSBs specifically, Vijaya, BoB and Dena Bank to seek after bankingdivision changes. The government reported the merger of Bank of Baroda, Vijaya Bank and Dena Bank to make the country's second biggest public segment bank by resources and branches and the third biggest loan specialist within the nation. As on April 2017, State Bank had meged with five of its subsidiary banks and took over Bharatiya Mahila Bank. It is critical to record that after the merger of BoB, Vijaya Bank and Dena Bank, the number of public division banks will decrease to 19.

- **INDIA EMERGES AS ONE OF WORLD'S BLOCKCHAIN PIONEERS BY 2023:** With the proper sum of industry and government interest, India can be in administration positions in selection of blockchain innovation within the following five years, a study by worldwide advisory firm PwC. A blockchain is an open dispersed record innovation that stores data over different frameworks safely to empower peer-to-peer transactions by making a reliable source. Banks and other monetary organizations are contributing in blockchain innovation because it reduces their costs and makes their functions speedier and more straightforward.

- **RBI LIBERALISES EXTERNAL COMMERCIAL BORROWINGS TO CHECK RUPEE DEVALUATION:**

The Central Bank of India modifies the perspective of the external commercial borrowings approach consisting those linked to rupee denominated bonds to assist to examine check rupee deterioration. Nowadays, household banks can work as organizer and guarantor for rupee denominated bonds moreover, called as masala bonds, issued abroad, and their value cannot be more than 5% of the issue range after six months of issue as a financier.

Presently Indian banks had allowed taking part as organizer/financier/market makers/traders in RDBs issued abroad subject to appropriate prudential standards. Government moreover, free from taking tax on intrigued payable by Indian organizations to non-residents, counting foreign organizations, on borrowings through off-shore rupee designated bonds issued till 31st March 2019. Till presently, intrigued payable on these bonds provided recently July 1, were had a concessional rate of tax of 5%.

- **GOVERNMENT CREATES NATIONAL LOGISTICS PORTAL:**

  Union Ministry of Commerce and Industry had created National logistics portal to guarantee easiness of exchanging in worldwide and residential markets. It'll be executed in stages with the aim to satisfy Central Government's commitment to improve business competitiveness, make occupations, raising India's execution. Moreover, in 2018-19 budget speech, Union Finance Minister had reported that Division of Commerce will establish platform which can be single window online market for exchange.

CONCLUSION:

Consequently it can be supposed that a financial system gives a stage to the banks and borrowers to associate with each other for their shared benefits. The extreme benefits of this interaction come within the frame of capital aggregation and financial and economical advancement of the nation. The Indian financial framework had experienced basic change over the past decade. The financial segment has obtained quality, proficiency and solidness by the shared impact of competition, administrative measures, and schemes environment. Whereas competition and confluence had acknowledged as the crucial operators of the banking division within the coming years.

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PRESENT SCENARIO OF HIGHER EDUCATION SYSTEM IN INDIA

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Abstract:
Education has played a vital role in transforming to country. The development of country depends on its education systems and research carried out in a country. The continuing growth in India has led to increase demand for higher education. Thus the importance of higher education increases day by day. Higher education is necessary for social, economic and cultural development of the country. Indian higher education is one of the largest in the world in institution as well as in term of enrollment of student after the China and U.S.A. India is developing country, value based education is necessary for growth of India. Indian higher education system is very complex. To become a prosperous partner in global development, India has to develop and strengthen higher education with research and development. This paper deal with the present scenario of higher education system and challenges faced in higher education system. Data for this investigation collected from secondary sources like Journal, Internet and Govt. sites.
Keywords: - Transforming, Development, Higher Education

Introduction:-

Education has played a vital role in transforming to country. The development of country depends on its education systems and research carried out in a country. Education is the key to success of country. Education is the key element in development of human resources and skills etc. Indian education system is divided into three parts:-

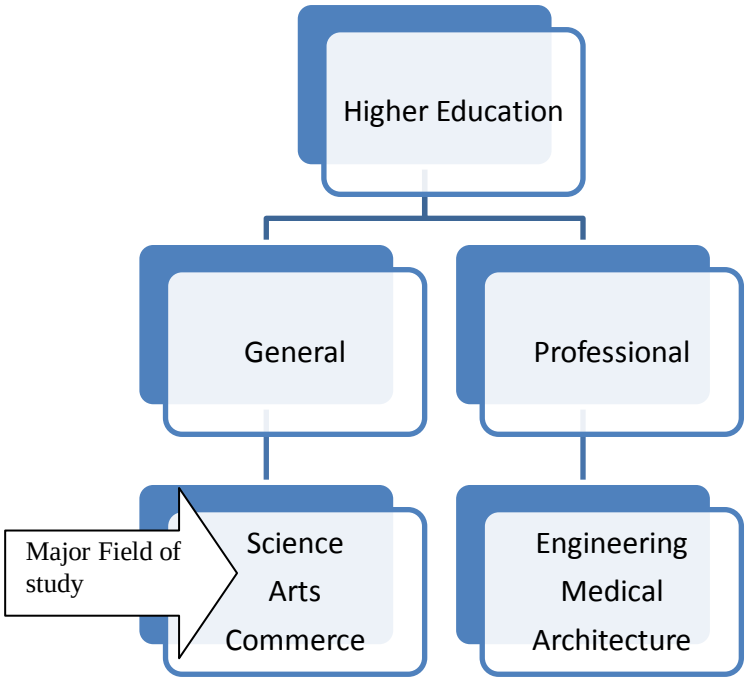
I. Elementary Education
II. Secondary Education
III. Tertiary Education

Elementary education includes primary class I to V and upper primary class VI to VIII. Secondary education includes secondary class IX to X and senior secondary class XI to XII. And tertiary education includes higher education and vocational education & training. Now comes to higher education which is integral part of tertiary education. Higher education is necessary for social, economical, cultural development of the whole country. Indian higher education system is one of the largest in the world after the U.S and China. There is a need of value based higher education system in India to enhance the employment skill and reducing poverty rate. There are apex level bodies under the department of higher education which are responsible for higher education in India. Higher education starts after secondary education. Indian higher education system is complex. There are three level of qualification in higher education

1) Undergraduate level:- Bachelor's degree
2) Postgraduate level:- Master's degree
3) Research level:- Ph.D., fellowship

Most undergraduate courses take three year for completion except some professional courses and Post graduation courses take generally of two year.
Higher education Impart knowledge, increase student's ability and give him/her to broad perspective of world around. Higher education includes various types of colleges, universities and institutes. Universities are also various types like central university, state

university, deemed university and private university. In India university means university establish under a central act or state act and any institute recognized by UGC in accordance with regulations under their act. Overview of higher education system in India:



Objective:

1. To study the overview of higher education system in India
2. To study the present scenario of higher education system in India
3. To study the growth in higher education system in India
4. To study the challenges of higher education system in India

Research methodology and data collection

The paper mainly concern with higher education system in India. Data for this investigation collected from secondary sources.

- **Secondary sources:** secondary data was collected from books, journal, internet and from govt. websites.

Evolution of higher education

The origin of education India can be traced to the Vedic age. Our ancient literature Vedas, Brahmanas revealed the highest knowledge to mankind through our ancient rishis. During the Gupta period, India becomes centre of higher learning with Nalanda, Takshila and Ujjain among others. In Buddhism period, Sarnath University becomes a great place of learning art and painting. After that, in mughal education system, colleges were established at Fatehpur Sikri Agra, Delhi. In 2006, India and other nation announced a proposed plan to revive the ancient site as Nalanda International University.

Present scenario of Higher Education system in India

There are three regulatory bodies to regulate higher Education in India:

I. University Grant Commission (UGC)

II. All India Council for technical Education (AICTE)

III. Council of Architecture \

I. University Grant Commission (UGC):

UGC govern university in India and come into existence on 28 Dec 1953. It become a statutory organization establish by an act of parliament in 1956. The main function of ugc is coordination, determination and maintenance of standard in universities.

Categorization of Universities

Universities	**Number**
Central Universities	48
State Universities	402
Deemed Universities	124
Private Universities	330
Total Universities	**904**

Sources: ugc.ac.in as on 26 Feb, 2019.

II. All India Council for Technical Education (AICTE):

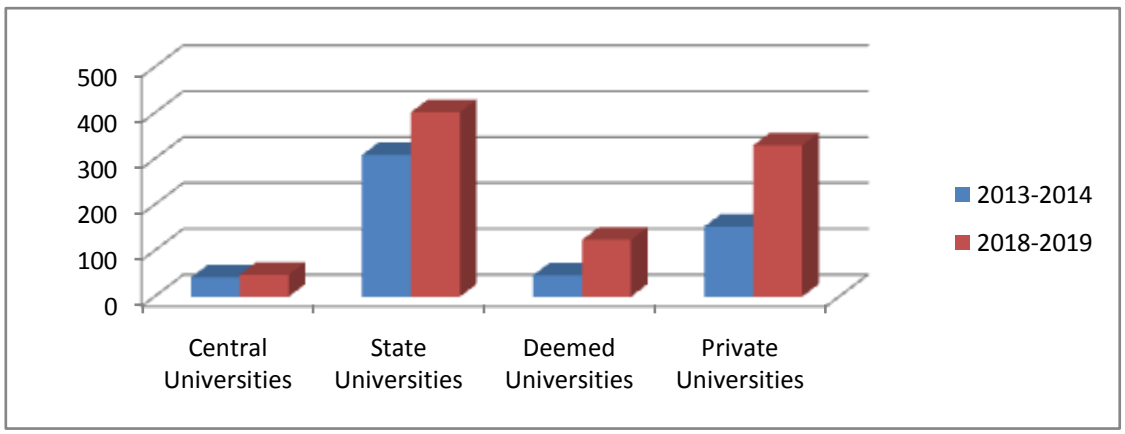
AICTE govern technical education in India. It was setup in 1945. It becomes a statutory body by an act of parliament in 1987. It is responsible for maintenance of standard of technical education, which includes research & training in engineering, technology, town planning, management, pharmacy, hotel management and applied Arts & crafts.

III. Council of Architecture (COA)

The COA was established by the government of India under the provision of Architects Act, 1972, by the parliament. And come into force on 1st Sep,1972. The act providefor registration of architects and matters related with it.

Growth of Higher Education sector in India

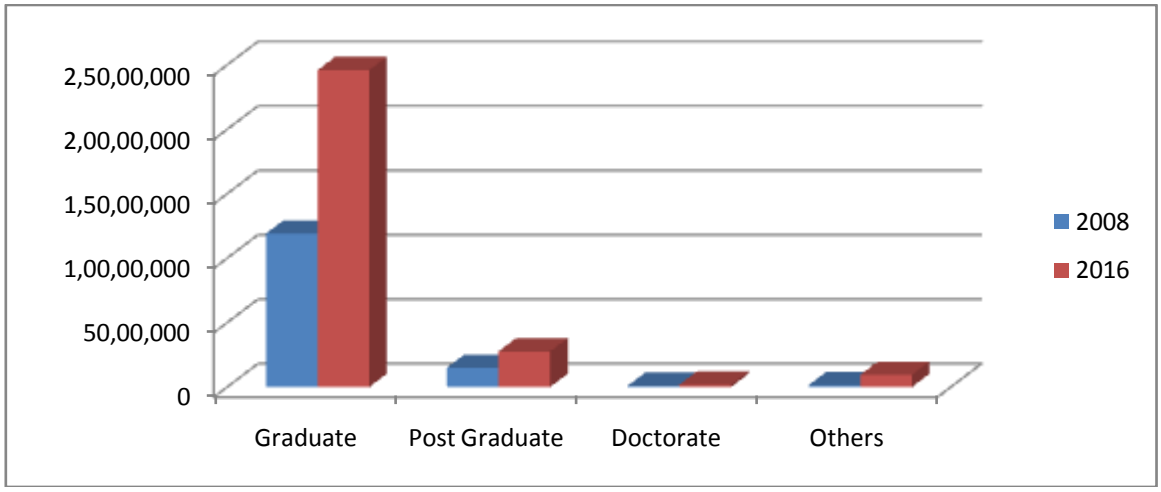
- **Growth of Universities in India**



- **Growth in students' enrollment in higher education**

Level of education	**2008**	**2016**
Graduation	11,908,151	24,593,321
Post graduation	1,489,685	2,764,886
Doctorate	95,872	180,957
Others	148,100	945,582
Total	**13,641,808**	**28,484,746**

This data show in chart form below:



Challenges with Higher Education

- **Huge gap between demand and supply:** India's Gross Enrollment Rate (GER) is just 19% which is so not good. GER is at least 50% lesser than developed world like Australia and US.
- **Unaffordability:** Two-thirds of enrolment in higher education is in private institutions which charge very high fees and work on a profit motive. This makes education highly unaffordable.
- **Shortage of faculty**: 25% of our teaching positions in the University are lying vacant. Faculty shortage and inability of educational institutions to attract and retain well qualified teachers have been posing challenged to quality education from many years.
- **Disparities in enrolment**: Students are enrolling in higher education institution on the basis of quota system, which is biggest challenge for higher education system.

- **Admission related challenges**: Students who are seeking admission into higher education institutions have to go through an entrence test. Even these students face problem in terms of fees that they have to pay to the coaching institutions which help in preparation of the entrance exams. Financial limitations are a major reason for students not taking up higher education.

Suggestion for Improvement:

- **Introduce innovation in syllabus**: The syllabus of Indian Higher Education System is not at all innovative. We need a curriculum which is progressive in nature. Students should be allowed to pursue multiple courses in the first year and should be given an option to choose a specialization after that.

- **Need for some young faculty**: The other problem with our Higher Education is that we have all the professors above the age of 60s and 70s in the academic curriculum board. With due respect to them, there is also a need for some young professors now. This is because the younger ones would be more aware of the technological change.

- **The Need for Research work:** there is need for more and better research both to improve the quality of undergraduate education and to increase the number of students who complete their studies.

- **Remove the disparities in enrolment:** there is need to remove the quota system for enrolment in universities and college for improving the quality of higher education system in India.

Conclusion:

It can therefore be conclude that higher educational institution are growing with increasing rate but the quality of higher education is decreasing day by day. The quality of higher education cannot be improved by the government alone. It needs the participation of whole nation for improving the quality and standard of higher education in India. We take to certain step for improvement of our higher education system.

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SECURITY ISSUES IN WIRELESS SERVICE

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ABSTRACT

Internet-enabled wireless devices continue to proliferate and are expected to surpass traditional Internet clients in the near future. This has opened up exciting new opportunities in the mobile e-commerce market. However, data security and privacy remain major concerns in the current generation of "wireless Web" offerings. All such offerings today use a security architecture that lacks end-to-end security.

This unfortunate choice is driven by perceived inadequacies of standard Internet security protocols like SSL on less capable CPUs and low-bandwidth wireless links. This article presents our experiences in implementing and using standard security mechanisms and protocols on small wireless devices.

We have created new classes for the Java 2 Micro-Edition platform that offer fundamental cryptographic operations such as message digests and ciphers as well as higher level security protocols like SSL. Our results show that SSL is a practical solution for ensuring end-to-end security of wireless Internet transactions even within today's technological constraints.

KEYWORDS:

Security, Wireless, Internet, Computational, E-Commerce

INTRODUCTION

In the past few years, there has been explosive growth in the popularity and availability of small handheld devices (mobile phones, PDAs, pagers) that can wirelessly connect to the Internet. These devices are predicted to soon outnumber traditional Internet hosts like PCs and workstations. With their convenient form factor and falling prices, these devices hold the promise of ubiquitous (anytime, anywhere) access to a wide array of interesting services. However, these batterydriven devices are characterized by limited storage (volatile and nonvolatile memory), minimal computational capability, and screen sizes that vary from small to very small. These limitations make the task of creating secure, useful applications for these devices especially challenging.

It is easy to imagine a world in which people rely on connected handheld devices not only to store their personal data, and check news and weather reports, but also for more security-sensitive applications like online banking, stock trading, and shopping — all while being mobile. Such transactions invariably require the exchange of private information like passwords, PINs, and credit card numbers, and ensuring their secure transport through the network becomes an important concern.[1]

On the wired Internet, Secure Sockets Layer (SSL) [1] is the most widely used security protocol.[2] Between its conception at Netscape in the mid-'90s and standardization within the Internet Engineering Task Force (IETF) in the late '90s, the protocol and its implementations have been subjected to careful scrutiny by some of the world's foremost security experts [2].

No wonder, then, that SSL (in the form of HTTPS which is simply HTTP over SSL) is trusted to secure transactions for sensitive applications ranging from Web banking to securities trading to ecommerce. One could easily argue that without SSL, there would be no e-commerce on the Web today. Almost all Web servers on the Internet support some version of SSL. Unfortunately, none of the popular wide-area wireless data services today offer this protocol on a handheld device.

Driven by perceived inadequacies of SSL in a resource-constrained environment, architects of both WAP and Palm.net chose a different (and incompatible) security protocol (e.g., WTLS [3] for WAP) for their mobile clients and inserted a proxy/gateway in their architecture to perform protocol conversions. A WAP gateway, for instance, decrypts encrypted data sent by a WAP phone using WTLS and re-encrypts it using SSL before forwarding it to the eventual destination server. The reverse process is used for traffic flowing in the opposite direction. Such a proxy-based architecture has some serious drawbacks.

The proxy is not only a potential performance bottleneck, but also represents a "man-in-the-middle" privy to all "secure" communications. This lack of end-to-end security is a serious deterrent for any organization thinking of extending a security-sensitive Internet-based service to wireless users. Banks and brokerage houses are uncomfortable with the notion that the security of their customers' wireless transactions depends on the integrity of the proxy under the control of an untrusted third party.

As wireless data services evolve, their architects are faced with two choices that can profoundly impact the future of the wireless Internet. They can adopt (if necessary, adapt) standard Internet protocols, or create an entirely different set of standards applicable only in the wireless world. The former choice would seamlessly extend the Internet to future mobile devices, the latter could severely stunt its expansion.

The Wireless Application Protocol (WAP) Forum subscribed to the "wireless is different" philosophy for its WAP 1.0 specification which defines an entire suite of protocols that parallel standard TCP/IP and web protocols, but are incompatible with them [5]. In contrast, others like the IETF's PILC working group have put forth proposals to reuse existing protocols and standards in ways that accommodate the special characteristics of wireless networks without destroying compatibility.

PROXY-BASED ARCHITECTURE

Due to protocol incompatibilities, a WAP device cannot communicate directly with the large installed base of Internet hosts. Instead, all communication must go through a gateway or proxy that performs protocol (and possibly content) translation. In typical deployments of WAP, this proxy is owned and maintained by a wireless service provider, who preprograms the proxy in all of its customers' phones. This allows the service provider to control what parts of the Internet are accessible to its customers, thereby creating a "walled garden" [6].

These architectural choices raise a number of concerns:

• Scalability: Since a proxy must process data packets to and from a large number of mobile devices, it represents a potential performance bottleneck (besides being a single point of failure). The insertion of a proxy also precludes end-to-end flow control. Since the wired side of a proxy has greater bandwidth than its wireless side, the proxy needs to maintain large data buffers for each active data flow.

• Legal: A recent French court ruling, prohibiting France Telecom from dictating which gateways its customers could use, is an indication that such an approach may have legal and anti-trust implications [6].

• Security: The most glaring drawback of a proxied architecture is the lack of end-to-end security. In the process of decrypting and reencrypting traffic, the proxy gets to see all communication in the clear.[3] This "WAP gap" problem is depicted in Fig. 1.; even though the wired and wireless "hops" are encrypted, the proxy is privy to all information exchanged. Sometimes the situation is even worse, since weak encryption (or none at all) is used on the wireless side, giving mobile users a false sense of security. This problem is not unique to WAP.

The Palm.net security architecture uses a proprietary protocol between the wireless device and the Palm.net proxy (owned and operated by Palm). SSL is used only between the proxy and the eventual destination. Thus, when a Palm VII user accesses an HTTPS URL to establish a secure connection with a Webserver, the connection that is set up isn't truly secure. This is unacceptable to security savvy organizations; for example, Sun's corporate firewall explicitly disallows connection attempts from the Palm.net proxy.

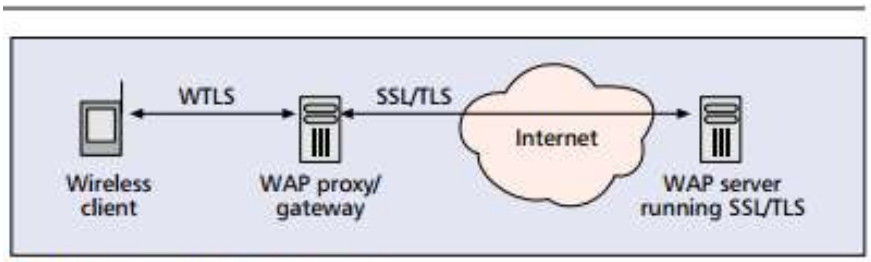

Figure 1. *Proxy-based architecture.*

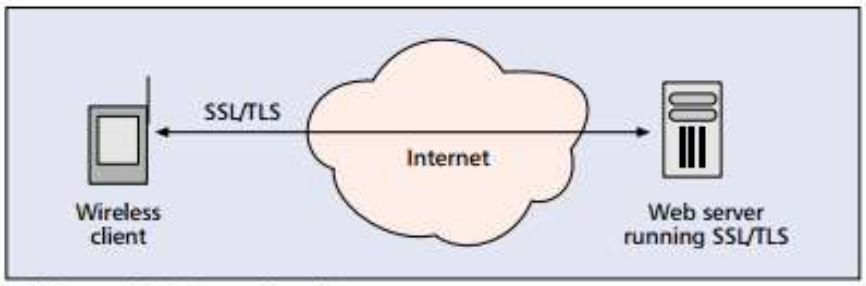

Figure 2. *End-to-end architecture.*

END-TO-END ARCHITECTURE

In contrast, the use of SSL between desktop PCs/workstations and Internet servers offers end-to-end security (Fig. 2). This holds true even when an HTTPS proxy is used to traverse firewalls. Unlike the WAP or Palm.net proxy, an HTTPS proxy does not perform decryption/re-encryption of data. Rather, it acts as a simple TCP relay shuttling encrypted bytes from one side to the other without modification. The expression "old is gold" is especially apt when considering security protocols.

Very often, it takes years of widespread public review and multiple iterations [7] to discover and correct subtle but fatal errors in the design and/or implementation of a security protocol. After more than five years of public scrutiny and deployment experience,4 SSL is the most widely trusted security protocol for all sorts of web-based transactions. The addition of SSL capabilities to mobile devices would bring the same level of security to the wireless world.

SECURE SOCKETS LAYER

SSL provides encryption, source authentication, and integrity protection of application data over insecure public networks. The protocol requires a reliable bidirectional byte stream service. Typically, this service is provided by TCP, which guarantees that there is no duplication, loss, or reordering of bytes. As shown in Fig. 3, SSL is a layered protocol.

The Record layer sits above the underlying transport and provides bulk encryption and authentication services using symmetric key algorithms. The keys for these algorithms are established by the Handshake protocol, which uses public-key algorithms to create a master secret between the SSL client and server. This master secret is further used to derive cipher keys, initialization vectors, and message authentication code (MAC) keys for use by the Record layer. Until these keys are installed, the Record layer acts as a simple bidirectional passthrough for all data.

Conceptually, the Alert and Change Cipher Spec (CCS) protocols sit within the same layer as the Handshake protocol. The former is used for notification of any protocol failures. The latter is used to signal successful completion of the handshake, and the start of bulk encryption and authentication in an SSL stream. SSL is very flexible and can accommodate a variety of algorithms for key agreement (RSA, DH, etc.), encryption (RC4, 3DES etc.), and hashing (MD5, SHA, etc.).

To guard against adverse interactions (from a security perspective) between arbitrary combinations of these algorithms, the standard specification explicitly lists combinations of these algorithms, called cipher-suites, with well-understood security properties. The Handshake protocol is the most complex part of SSL with many possible variations (Fig. 4). In the following subsection, we focus on its most popular form, which uses RSA key exchange and does not involve client-side authentication.

The SSL protocol allows both client- and server-side authentication. However, due to the unwieldy problem of maintaining client-side certificates, only the server is typically authenticated. Client authentication, in such cases, happens at the application layer above SSL, for example, through the use of passwords (one-time or otherwise) sent over an SSL-protected channel. The server's Certificate Request message as well as the client's certificate and Certificate Verify messages, shown in Fig. 4, are only needed for client-side authentication and rarely encountered in practice.

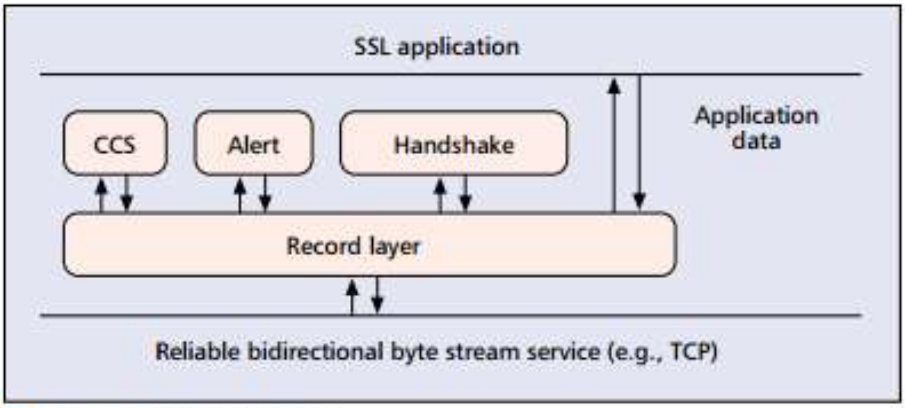

Figure 3. *SSL architecture.*

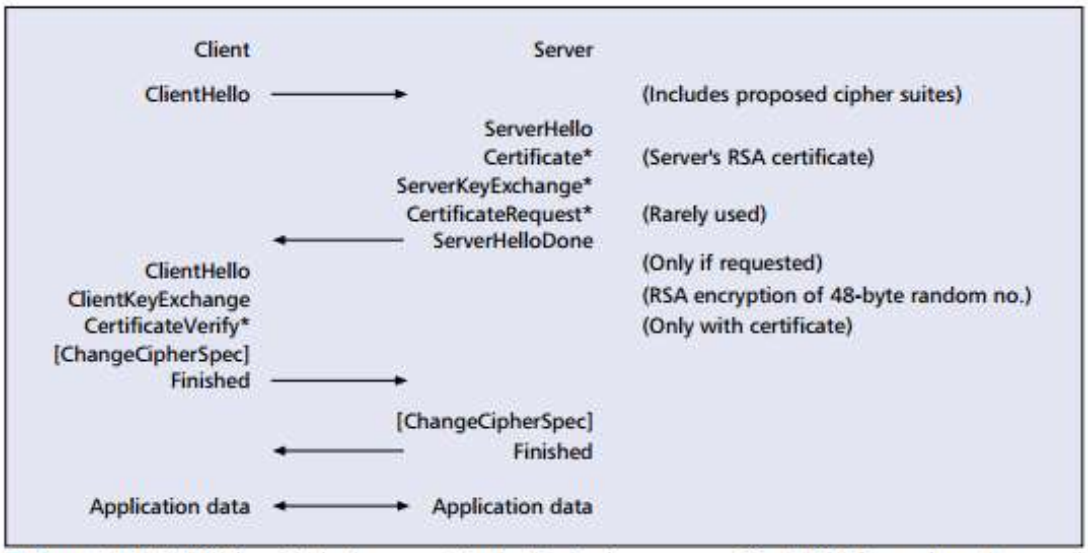

Figure 4. *Full SSL handshake (comments in the third column are specific to RSA key exchange).*

Full SSL Handshake

The client initiates a new SSL session by sending a Client Hello message that contains a random number (used for replay protection), a session ID (set to zero), and a set of supported cipher-suites. If the server is unwilling to support any of the proposed cipher suites, it aborts the handshake and issues a failure notification. Otherwise, it generates a random number and a session ID and sends them in the Server Hello message along with the selected cipher suite.

The Server Hello is followed by a Certificate message containing the server's RSA public key in an X.509 certificate.[5] If this key is unsuitable for generating the Client Key Exchange message (e.g., if the key is authorized for signing but not for encryption), the server includes another RSA public key in the Server Key Exchange message and signs it with the private key corresponding to its certified public key.

The client verifies the server's public key. It then generates a 48-byte random number, called the pre-master secret, and encrypts it with the server's public key. The result is sent to the server in the ClientKeyExchange message. The client also computes a master secret based on the pre-master secret, and the client and server random numbers exchanged

previously. The master key is processed further to derive the symmetric keys used for bulk encryption and authentication.

These keys are installed in the record layer and a Change Cipher Spec message is sent to signal the end of in-the-clear communication. The Finished message is the first one from the client side to be secured by the negotiated cipher suite. It ensures that any tampering of prior handshake messages, sent in the clear, can be detected.

Upon receiving the Client Key Exchange message, the server decrypts the pre-master secret and follows the same steps as the client to derive the master secret and symmetric keys for the Record Layer. After installing these keys in the Record Layer, the server is able to validate the client's Finished message. The server also sends the Change-Cipher-Spec and Finished messages to complete the handshake. From here on, application data can be exchanged and is protected by the encryption/ hashing algorithms negotiated in the handshake. Each direction of the traffic's flow uses distinct encryption and MAC keys.

Abbreviated SSL HandShake

The SSL specification also supports a feature called session reuse, which allows the client and server to reuse the master key derived in a previous session. The abbreviated handshake protocol is shown in Fig. 5. Here, the Client-Hello message includes the nonzero ID of a previously negotiated session. If the server still has that session information cached and is willing to reuse the corresponding master secret, it echoes the session ID in the Server-Hello message.

Otherwise, it returns a new session ID, thereby signaling the client to engage in a full handshake. The derivation of symmetric keys from the master secret and the exchange of Change-Cipher-Spec and Finished messages is identical to the full handshake scenario. The abbreviated handshake does not involve certificates or public key cryptographic operations so fewer (and shorter) messages are exchanged. Consequently, an abbreviated handshake is significantly faster than a full handshake.

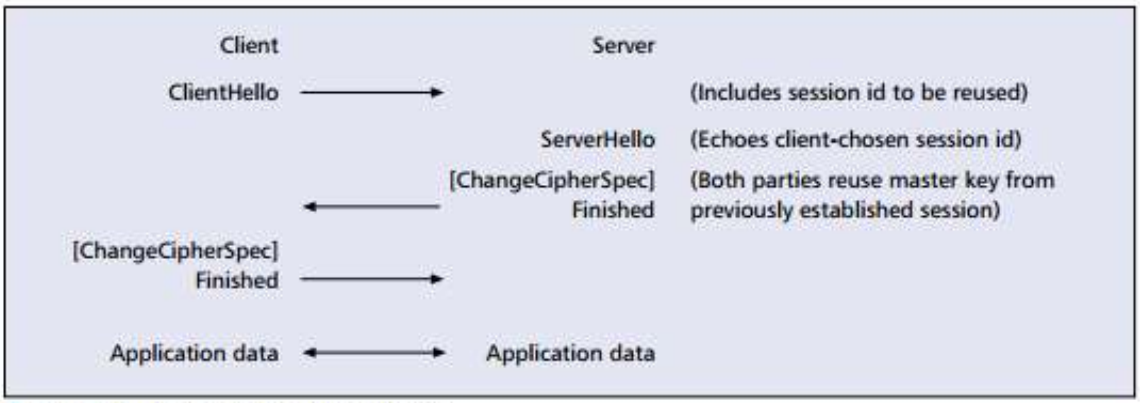

Figure 5. *Abbreviated SSL handshake.*

TECHNOLOGY TRENDS

Since starting this project about a year ago, we've seen several examples of technology's relentless march toward smaller, faster, and more capable devices. Newer Palm PDAs like the PalmVx and PalmIIIc use 20 MHz processors, and the Handspring Visor Platinum

(another PalmOS device) features a 33 MHz processor, both considerable improvements over the earlier 16MHz CPUs. All of them offer 8 mbytes of memory. The Compaq iPaQ pocket PC, in comparison, carries a 200MHz StrongARM processor and 16-32MB of memory. The CPU enhancements have a direct impact on the speed of SSL's cryptographic operations. Significant performance gains are also obtainable by using hardware accelerators in the form of tiny smart cards (and related devices like the iButton).

Similarly, improvements can also be seen in the speed of wireless networks. Metricom's Ricochet service now offers wireless data speeds of 128 kb/s in several U.S. cities, and 3G networks hold the promise of even faster communication in the next year or two. These improvements help reduce the network-related latency of an SSL handshake. Even with the older 32 kb/s Ricochet service, we see 15–20 percent faster handshakes compared to the CDPD network.

Powerful handhelds like the iPaQ using 802.11 for wireless connectivity have no problems whatsoever running SSL. Even smart compilation techniques, which had been available only on more capable PCs and workstations, are now available on small devices and can boost the performance of J2ME applications by as much as a factor of five. These developments should alleviate any remaining concerns about SSL's suitability for wireless devices. They also highlight an interesting phenomenon: In the time it takes to develop and deploy new (incompatible) protocols, technology constraints can change enough to raise serious questions about their long-term relevance.

CONCLUSIONS AND FUTURE WORK

Our experiments show that SSL is a viable technology even for today's mobile devices and wireless networks. By carefully selecting and implementing a subset of the protocol's many features, it is possible to ensure acceptable performance and compatibility with a large installed base of secure Web servers while maintaining a small memory footprint. Our implementation brings mainstream security mechanisms, trusted on the wired Internet, to wireless devices for the first time.

The use of standard SSL ensures end-to-end security, an important feature missing from current wireless architectures. The latest version of J2ME MIDP incorporating KSSL can be downloaded from [10]. In our ongoing effort to further enhance cryptographic performance on small devices, we plan to explore the use of smart cards as hardware accelerators and Elliptic Curve Cryptography in our implementations.

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GLOBAL WARMING AND ITS ECONOMICAL IMPACTS ON INDIA

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ABSTRACT

Global warming is a threatening issue for whole of the world. It means to continuous rise in earth`s surface or environmental temperature due to green house effect. And what is green house effect? The earth`s atmosphere is composed of nitrogen, oxygen and other such gases which are responsible for maintaining average temperature for life on earth at 16 degree Celsius. When the sun rays collide with earth`s surface then most of the energy is absorbed by green house gases such as carbon dioxide, methane, nitrous oxide, sulphur dioxide, carbon mono oxide, while a part of the solar radiation called infrared radiation returns into space by means of clouds, snowflakes and other reflective things.
Global warming affects the geography within which the global economy operates. It changes growth zones. It changes shorelines, it changes the places where human will feel comfortable living. In addition, if humans actually decide to do anything about it, it will change the way industry & people use fossil fuels.

INTRODUCTION

India is positioned on the Indian subcontinent in south central Asia, and is located in both the eastern & northern hemisphere. India boarded by Arabian sea, bay of Bengal, gulf of manner, Indian ocean and the countries of Pakistan, china, Nepal, Bhutan, Bangladesh and Burma. Due to India's geographical location, it causes to increase in the temperature of the country, the Himalayas act as a barrier to the frigid katabatic winds flowing down from Central Asia(1) which keep northern India warm or mildly cooled during winter and in summer, by this temperature of india tends to increse.

Though the Tropic of Cancer passes through the middle of India, the most of the country can be regarded as climatically tropical.(2) As in much of the tropics, monsoonal and other weather patterns in India can be wildly unstable: major droughts, floods, cyclones, and other natural disasters are common, and have displaced or ended millions of human lives. There are some other reasons exists which are responsible for heating Indian temperature.

Major factors responsible for rising average temperature in India:

1) Explosive growth in population
2) Geographical location of India.
3) Rapid growth in industrial activities ignoring their harmful effects on enviournment.
4) Unscientific Agricultural activities (more use of pestisides and fertilizers, disposal of agricultural wastes through fire in open enviournment etc).
5) Indiscriminately development activities (road and building constructions).
6) Heavy traffic on roads.
7) Exploitation of dense forest areas.
8) More dependency on fossil fuel.
9) Enhancement in urbanization.
10) Effect of global climate and other global activites (industrial, natural and human activities)

Global scenario

Global warming is having a measurable effect on the planet and it affects all the natural system rapidly and globally. Global warming, is mainly caused by human activities, primarily the burning of fossil fuels that release carbon dioxide (CO2), methane and other greenhouse gases into the atmosphere. According to the Intergovernmental Panel on Climate Change (IPCC) human activities blaimed majorly for global warming. More than 197 international scientific organizations agree that global warming is real and has been caused by human action. (3)

Some measurable effects of global warming on the world-

Increase in average temperatures and temperature extremes

Scientists have high confidence that global temperatures will continue to rise for decades in future, largely due to greenhouse gases. The Intergovernmental Panel on Climate Change (IPCC) forecasts a temperature rise of 2.5 to 10 degrees Fahrenheit over the next century. The Earth's average temperature has increased about 2 degrees Fahrenheit during the 20th century.(4)

Extreme weather events

Extreme weather is another effect of global warming. Scientists project that extreme weather events, such as heat waves, droughts, blizzards and rainstorms will continue to occur more often and with greater intensity due to global warming. Due to these events a lot of economical and other damages are occurred. Global warming may also lead to other extreme weather events, for example, hurricane formations will change. It is estimated that hurricanes will become more intense due to climate change. This is because hurricanes get their energy from the temperature difference between the warm tropical ocean and the cold upper atmosphere. Global warming increases that temperature difference. Many of people lost their lives in these hurricanes and economical loss is also there. Since the most damage by far comes from the most intense hurricanes — such as typhoon Haiyan in the Philippines in 2013(5). Lightening is another weather feature that is being affected by global warming. According to a study, a 50 percent increase in the number of lightning strikes within the United States is expected by 2100 if global temperatures continue to rise(6). according to a research, U.S. lightning costs and losses may exceed $5 to $6 billion per year(7).

Ice melting and rising sea level

Globally ice melting process becomes very fast and glaciers disappears rapidly. Studies reveals that snows of Kilimanjaro have melted more than 80 percent since 1912, and Glaciers in the Garhwal Himalaya in India are retreating so fast that researchers believe that most central and eastern Himalayan glaciers could virtually disappear by 2035.(8) Melting polar ice in the Arctic and Antarctic regions, coupled with melting ice sheets and glaciers across Greenland, North America, South America, Europe and Asia, are expected to raise sea levels significantly.(9) Antarctica has been losing nearly a hundred cubic kilometers of ice each year since 2002.(10) Average sea levels have rises over 8 inches

since 1880 , and three inches from those increases in last 25 years. Every year, the sea level rises another .13 inches.(11) By continuous rising in global warming global sea level could rise upto 3 feet by 2100.(12) and rising of sea level is a serious threat mainly for coastal cities.

Ocean acidification

Sea level isn't the only thing changing for the oceans due to global warming. As levels of CO_2 increase, the oceans absorb some of that gas, which increases the acidity of seawater. Since the Industrial Revolution began in the early 1700s, the acidity of the oceans has increased about 25 percent (13)) If current ocean acidification trends continue, coral reefs are expected to become rare in areas where they are now common.

Effect on agriculture and food security

Climate change affect agricultural activities seriously. Beyond a certain range of temperatures, warming tends to reduce yields because crops speed through their development, producing less grain in the process. As a result, world would face food scarcity especially in underdeveloped and developing countries, researches says that poor countries suffer the worst effects of global warming than rich(14).

Indian scenario-

The Indian economy is considered as one of the fastest growing major economies. However, the country is plagued by the climatic disasters that continue to worst its economy. As a result, in spite of the leaping economical progress, the majority of the people of India continue to live in poverty, with malnutrition and diseases corroding the society. In India most of the development activities are unplanned and unscientific and are implemented ignoring their economical, enviournmental and social aspects. Due to large population, emission of greenhouse gases, adoption of wrong patterns of industrial, agricultural and developmental activities, lack of enviournmental awareness and less initiatives by government causes global warming in India. There is a huge impact of global warming on Indian economy. It causes change in rainfall pattern, heavy floods, major droughts, impact on agriculture sector, impact on power generation, impact on health, fatal diseases etc.

Some recent major floods in India-

Uttarakhand flash Floods 2013-

The 9 districts of Uttarakhand received massive Landslides and heavy rainfall, which caused flashfloods in the whole state. The Kedarnath Temple one of the famous temples of Lord Shiva in India and part of the Char Dham yatra, was damaged and around 1000 people have died and many more were missing.(15) It is one of the most disastrous floods in the history of India. As many as 2,052 houses have been wiped out, 147 bridges have collapsed and 1,307 roads destroyed due to landslides. Three drinking water projects have got washed away in Garur block, while 71 streams and 40 canals have been damaged. As per preliminary estimates, the disaster has cost Uttarakhand Rs 50,000 crore in infrastructural loss. Uttarakhand Jal Vidyut Nigam Limited has suffered loss of Rs 77 crore apart from the Rs 50 crore lost in power generation(16).

Kerala floods 2018-

From 8 August 2018, severe floods affected the south Indian state of Kerala, due to unusually high rainfall during the monsoon season. It was the worst flood in Kerala in nearly a century. Over 483 people died, and 14 are missing(17). About a million people were evacuated. According to a report from the Associated Chambers of Commerce & Industry of India (Assocham) - The floods in Kerala could potentially have caused damage worth Rs 15,000-20,000 crore(18). On August 12, Cochin International Airport, India's fourth busiest in terms of international traffic, and the busiest in the state suspended all operations until 29 August, Kochi airport suffers a an estimated damage of Rs 250 crore in Kerala floods(19).

Jammu and Kashmir floods 2014-

In September 2014, the Kashmir region suffered disastrous floods across many of its districts caused by heavy and unexpected rainfall. The Indian state of Jammu and Kashmir, as well as Gilgit-Baltistan and Punjab were affected by these floods. By 24 September 2014, nearly 277 people lost their lives in India by this flood(20). It was estimated that the damage to public infrastructure like bridges, roads, hospitals and other government buildings puts the figure at between Rs 5,000 crore to Rs 6,000 crore(21).

Problem of drought-

Drought is an another ugly impact of global warming. In india problem of droughts is very serious, there are some states which have major drought-prone regions such as southern andeastern Maharashtra,northern Karnataka, AndhraPradesh, Odisha, Gujarat, Telangana a nd Rajasthan.(22) An economical impact of rs. 6,50,000 crore is estimated in 10 states across the country and nearly 33crore people are affected due to droughts.(23) The Maharashtra in India has been constantantly declared as drought affected state since the year 2012. The region received lower rainfall during the monsoon season June to September 2012 which resulted in the 2013 drought in Maharashtra, it was one of the worst drought to hit the region in 40 years(24) drinking water crisis of Maharastra and Shimla were recently got fame in country.

Impact on Agriculture sector-

Climate change and agriculture activities are interrelated processes, both of which take place on a global scale. Climate change affects agriculture in number of ways like food security, availability, access and absorption. When production decreases, availability of food decreases. Climate change hits poor the most. They don't have income to buy the food, so their access to it is affected. This, in turn, has an impact on health and affects absorption. climate change has about 4-9 per cent impact on agricultural production each year. As agriculture contributes 15 per cent to India's GDP, climate change presumably causes about 1.5 per cent loss in GDP(25).

The Economic Survey reaveals the impact of Climate Change on agricultural incomes. The survey said that extreme weather patterns can impact farmers incomes in the range of 15 per cent to 18 per cent on average(26). Additionally more than 60% area in Indian

agriculture sector is rain fed and also there is high dependency on ground water for irrigation and drinking purposes, and the level of ground water fall due to changing pattern of rainfall and over exploitation, near about 15% ground water resources are over exploited(27). So global warming could be threat for irrigation and overall agricultural activities. Also with glacier melting there is instability in glacier fed rivers particularly in Indus and Brahmaputra. With alteration in the flow of these rivers there could be a significant impact on the irrigation, food production and livelihood system in the basins of these rivers(28). All this data reveals that global warming put huge negatives effects on agriculture sector.

Impact on Health-

Climate change is expected to have major health impacts in India- increasing malnutrition and related health disorders such as child stunting becomes common. Malaria and other vector-borne diseases, along with and diarrheal infections which are a major cause of child mortality. Heat waves are also causes to mortality and death, and injuries from extreme weather events.

Preventive measures for global warming:

1. Appropriate and efficient use of energy resources and maximum use of renewable energy like solar power, wind energy, hydroelectric power, biogas energy, ocean energy, geothermal energy.
2. Unnecessary industrial activities should be stopped.
3. Industrial and development activities should be performed considering environmental impacts.
4. Government should take effective measures for controlling population and awareness programme should be initiated for family planning.
5. All the major and developed countries should be committed for reducing greenhouse gases and also helps other countries for such programme.
6. Less dependency on fossil fuels.
7. Improvement in buying habits (i.e. bulk purchasing reduce frequency of travelling, enviournment friendly packaging etc.) and transportation habits (more use of public transportation instead of personal cars).
8. We should Plant more and more trees for reducing effect of greenhouse gases.
9. Environmental awareness programme should be initiate at large scale.

Conclusion:

All of us knows that human activities are the major reason behind global warming, if we really worried about it then we must work for it collectively. Only research works and talking about it not the complete solution, we should change our poor habits which are harmful for our nature and causing global warming. Unknowingly and knowingly we perform a lot of activities in our daily routine life which causing global warming.

Identification, prevention , controlling and awareness about such activities can control global warming.

Additionally, contribution of government is must because formation of national policies and work on large scale is possible only through the government. NGOs can also play an important role in create awareness among individuals for negative impacts of global warming. Totally, only worldwide efforts could save our planet from global warming.

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IMPACT OF GOODS AND SERVICE TAX (GST) ON INDIAN ECONOMY

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Abstract:
GSTreferred goods and service tax is major taxation scheme developed for economic growth. Its main objective is to consolidate all indirect tax l into a single tax, except customs (excluding SAD), replacing multiple tax levies, overcoming the limitations of existing indirect tax structure. Goods and service tax implemented on July 1, 2017. The primary objective behind development of GST is to subsume all sorts of indirect taxes in India like central excise tax, VAT/Sales tax, Service tax etc. and implement one taxation system in India. The objective of this paper is highlight the concept, features, benefits and impact of GST on Indian economy.

Keywords: GST, VAT, SAD

INTRODUCTION:

GST also known as the goods and service tax. GST is a comprehensive tax levy on manufacturing, sale and consumption of goods and services at a national level. GST is a single tax replacing all the indirect taxes and collected by a single authority but in our country system of governance is federal and both Centre and state have the power to collect indirect taxes in one form or another. Hence a formula is developed to introduce a compromised GST with the consent of state hence we can say it Indian format of GST.

Review of Literature:

Nitin Kumar (2017) mentioned in his research paper that implementation of GST will try to remove all shortcomings of present tax structure in India in his research paper "Goods and Service Tax in India-A Way Forward"
Rathod, M. (2017) in his paper "An overview of goods and service tax(GST) in India " concludes that GST will help be step towards a developed India benefiting to many parties and the entire nation.
Dr. G Sunitha and P.Satischandra had highlighted the concept of GST, its effect on Indian economy and the benefits in this paper: Goods and Service Tax (GST): As a New Path in Tax Reforms in Indian Economy".

Objectives of the Study:

The objective of the study is to understand the concept, features, benefits and impact of GST on Indian economy.

Methodology:

Various secondary data is collected from various articles, magazines and newspapers

Concept of GST:

Goods and Service Tax Act was passed in the parliament on 29th march, 2017, the act came into effect on 1st July, 2017. GST is one indirect tax for the entire country. In simple words Goods and Service Tax is an indirect tax levied on the supply of goods and services.

Under GST regime, tax is levied at every point of sale. In the case of intrastate, central GST and state GST are charged interstate sale are chargeable to integrated GST.
DefinitionofGST"GST is a comprehensive, multistage, destination based tax that is levied on every value addition".

Multistage:
There are multiple stages an item goes through along its supply chain from manufacturer to final consumer. Goods and Service Tax is levied on each of these stages that is why it is multistage tax.

Value addition:
GST is levied on every value addition like value of flour increased when mix with biscuits its value increased by packing, labelling etc. The monetary value of each value addition is calculated for GST.

Destination based:
It means entire tax revenue will go to the place of consumption i.e. if goods produced in Haryana and sold to Punjab then entire revenue go to the Punjab (place of consumption)

Rates of GST:
Goods services are divided into five tax slabs for collection of tax – 0%, 5%, 12%, 18%, and 28%, 32% However, Petroleum products, alcoholic drinks, electricity are not taxed under GST and instead are taxed separately by the individual state government as per the previous tax regime. There is a special rate of 0.25% on rough precious and semi-precious stones and 3% on gold. In addition a cess of 22% or other rates on top of 28% GST applies on few items like aerated drinks, luxury cars and tobacco products.
Pre-GST, the statutory tax rate for most goods are expected to be in the 18% tax range.

Features of GST:
1. GST will have two components namely central GST levied by the Centre state GST levied by states.
2. Petroleum products, alcohol for human consumption tobacco have been kept out of the purview of the GST.
3. The final consumer will have to bear only the GST charge by the last dealer in the supply chain.
4. Tax collected would be divided between Centre and state in a manner that would be defined by the parliament as per the recommendations of the GST council.
5. Bill propose an additional tax not exceeding 1% on interstate trade in goods to be levied and collected by the Centre to compensate the states for two years as recommended by the GST council, for losses resulting from implementing the GST.

Benefits of GST To Indian Economy:

Reduce Burden Of Indirect Taxes :

It removes burden of indirect taxes such as VAT, CST,Service tax, CAD, SAD and Excise.

Reduction in prices:

Manufacturer or traders would not have include taxes as part of their cost of production which would lead to reduction in prices,

Lower the burden on common man:

Now public will have to shed less money to buy the same products that were costlier earlier so it lower the burden on common man.

Removal of cascading effect:

Cascading means a tax on tax. It is a situation wherein consumer has to bear the load of tax on tax. GST removes this cascading effect.

Will help in tax evasion:

All the distributors will prefer purchase with invoices, because that would give them better profit margins as the distributor will get credit of all the taxes paid at the previous stage. Currently it is the distributor who has to bear the burden of the excise duty. So if customer insist on taking the bill we can presume that the tax evasion should fall.

Unified market:

Individual taxes imposed by the central government as well as states will be cut down by the implementation of GST. This will lead to unified market and would boost the movement of goods across the state with drop in business cost.

Improvement in tax governance:

Tax governance will improve two ways. One it is related to self-policing incentives inherent to a value added tax that can work very powerfully in GST. Second relates to the dual monitoring structure of GST, one by the states and the other by the center.

Control on black money:

It control on black money circulation as the system normally followed by traders and shopkeepers will be put to a mandatory check.

Removal of location bias approach:

As taxes should not be a hindrance to the investment decision of an individual, introduction of GST would help an investor to put up business units in any state without the worry of tax differences. This would boost the business in undeveloped locations as well.

Boost the economy:

Introduction of GST will boost the economy in long run as it provides many benefits such as remove tax burden which help in increasing demand which leads to increase in supply, remove cascading effect, and simplify tax structure and so on.

Impact of GST on Indian economy:

GST has simplified the taxation structure in India. The new taxation regime also has several other impacts on the on the economy. GST has positive as well as negative effects there are explained as:

Positive Effects of GST on Indian Economy:

Removal of cascading effect :

GST has remove double taxation. Under previous tax regime, the transfer of goods came under service contract. This means that every invoice had the value of goods as well services. Both of these attracted a rate of 70% each giving a total of 140%. Under GST, the taxes are unified under the supply of services.

Simplification of Tax Structure:

This replaces the multiple stages of taxation under the old tax regime. This saves a lot of resources for calculation of taxes. It also united the taxation laws under various state governments.

Reduction of Input cost:

Since the abolishing the multiple levels of taxation and introduction of a single tax on value addition, the cost of input will decrease. The taxation on inputs such as VAT, Excise duty is no longer valid.

Increase in exports:

With the implementation of GST the cost of production in domestic market reduced which influence traders to sell their products in foreign markets, so it helps in increasing exports.

Benefit to Software industry:

Under the old system of taxation, there was some disputes as to whether they need to apply for VAT or service charge on their products. GST clearly distinguishing between products and services and the way taxation is applied to them.

Increase competition:

With the implementation of GST, prices has goes down because burden of paying tax has reduced. Which induced to trader to produce more at lesser effective cost, which leads to increase competition.

Transparency in the system:

It will improve transparency in the system as the customers will know exactly how much taxes they are being charged and on what base.

Add government revenue:

GST will add to the government revenue by extending the tax base.

Increase preview of taxation:

GST will provided credit for the taxes paid by producers in the goods and service chain. This is expected to encourage producer to buy raw material from different registered dealers and is hoped to bring in more vendors and suppliers under the purview of taxation.

Negative Impact of GST on Indian Economy:

Tax also paid for free services:

If anyone provide services free of cost there are still eligible to be taxed for it.

Lack of centralized system:

Business in every state have to maintain their personalized accounting records since there is no centralized registration of business. Every state is financially accountable to thatstate for taxation. Accounts will be separatefor central and state taxation for each business.

Less education in public:

The GST tax regime has changed the system completely and public are unaware about it hence the tax payer and the general public have to be informed on how this will impact day to day business activities. This involves lot of expenses.

Burdenful procedure of filing return:

As a business owner, you have to file GST returns listing detailing all the business activities such as purchase, sale etc. periodically. The decentralization registration is the cause of filing for so many returns as you have to file the return for every state your business into. A business owner has to file close to 37 returns in a financial year. This is a burdenful procedure.

Burden on consumer:

The GST is destination based tax which means the burden of tax falls on the end consumer.

Conclusion:

If we see the positive and negative impacts of GST then it is cleared that positive effects or advantages of GST are more compared to negative effects. It positively affect effects Indian economy and brings strong tax system like reduce tax burden , reduce prices, reduce cascading effect and so on. Because objective of GST is provide relief to various parties like consumer, producers, government. So to get benefit of it its structure should be simple which so that each can understand it. And a strong mechanism should be built.And to make it simpler education is provided to all so that they understand the concept of GST (Goods & Service) and know the benefits which they received with the introduction of GST. Because for its success it is necessary that everyone can understand it.So this research find that GST is a positive step taken by the government.

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JOURNEY OF GST IN INDIA: A STUDY

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Abstract

The year 2017 will forever be etched in Indian history as the year that saw the implementation of the biggest and most important economic reform since Independence - the Goods and Services Tax (GST). The reform that took more than a decade of intense debate was finally implemented with effect from 1 July 2017, subsuming almost all indirect taxes at the Central and State levels.GST, which was publicised as 'one nation, one tax' by the government, aims to provide a simplified, single tax regime in line with the tax framework applicable in several major economies across the Globe. This single tax has helped streamline various indirect taxes and brought in more efficiencies in business. GST law in India is a comprehensive, multi-stage, destination-based tax that is levied on every value addition.The implementation of the GST got overwhelming support from the industry. The industry took this as an opportunity to redefine supply-chain model, customise IT processes, and evaluate internal and external arrangements to safeguard interest and minimise their tax costs.As the GST journey progressed, there was a growing realisation of its far-reaching impact. Industry faced various challenges, ranging from new and unique concepts, complex documentation, high tax rates of certain goods and services to complex or unclear treatment of several common transactions. The matching concept for claiming credits, adverse and contrary advance rulings, ambiguity on aspects relating to Anti-Profiteering, GST refunds etc. are some of the emerging challenges that the businesses should be mindful of.However, it should also be appreciated that the authorities have been quick to address public concerns by issuing a series of notifications, clarifications, press releases and FAQs, to resolve a wide range of issues.There is hope that GST 2.0, which is at the works currently, will be a much improved version compared to the first one. The government has come out with new return filing process. There have been multiple reduction in tax rate for various goods. With the objective to curb tax evasion, the government has also introduced the E-way bill system across India, to track movement of goods.

Keyword: *GST, Government and State GST (SGST), HSN code, E-Way Bill, Goods and Services Tax Network (GSTN).*

Introduction

Goods and Service Tax (GST) is an indirect tax (or consumption tax) imposed in India on the supply of goods and services. It is a comprehensive multistage, destination based tax. Comprehensive because it has subsumed almost all the indirect taxes except few. Multi-Staged as it is imposed at every step in the production process, but is meant to be refunded to all parties in the various stages of production other than the final consumer. And

destination based tax, as it is collected from point of consumption and not point of origin like previous taxes. Goods and services are divided into five different tax slabs for collection of tax - 0%, 5%, 12%, 18% and 28%. However, petroleum products, alcoholic drinks, and electricity are not taxed under GST and instead are taxed separately by the individual state governments, as per the previous tax regimeThere is a special rate of 0.25% on rough precious and semi-precious stones and 3% on gold. In addition a cess of 22% or other rates on top of 28% GST applies on few items like aerated drinks, luxury cars and tobacco products. Pre-GST, the statutory tax rate for most goods was about 26.5%, Post-GST, most goods are expected to be in the 18% tax range. The tax came into effect from July 1, 2017 through the implementation of One Hundred and First Amendment of the Constitution of India by the Indian government. The tax replaced existing multiple flowing taxes levied by the central and state governments. The tax rates, rules and regulations are governed by the GST Council which consists of the finance ministers of centre and all the states. GST is meant to replace a slew of indirect taxes with a federated tax and is therefore expected to reshape the country's 2.4 trillion dollar economy, but not without criticism. Trucks' travel time in interstate movement dropped by 20%, because of no interstate check posts.

Launch

The GST was launched at midnight on 1 July 2017 by the President of **India**, and the **Government of India**. The launch was marked by a historic midnight (30 June – 1 July) session of both the houses of parliament convened at the Central Hall of the Parliament. Though the session was attended by high-profile guests from the business and the entertainment industry including **Ratan Tata**, it was boycotted by the opposition due to the predicted problems that it was bound to lead for the middle and lower class Indians. It is one of the few midnight sessions that have been held by the parliament - the others being the **declaration of India's independence** on 15 August 1947, and the **silver** and **golden jubilees** of that occasion.After its launch, the GST rates have been modified multiple times, the latest being on 22 December 2018, where a panel of federal and state finance ministers decided to revise GST rates on 28 goods and 53 services.Members of the **Congress** boycotted the GST launch altogether. They were joined by members of the **Trinamool Congress, Communist Parties of India** and the **DMK**. The parties reported that they found virtually no difference between the GST and the existing taxation system, claiming that the government was trying to merely rebrand the current taxation system. They also argued that the GST would increase existing rates on common daily goods while reducing rates on luxury items, and affect manyTax

Taxes subsumed

The single GST subsumed several taxes and levies which included: central excise duty, services tax, additional customs duty, surcharges, state-level value added tax and Octroi. Other levies which were applicable on inter-state transportation of goods have also been done away with in GST regime. GST is levied on all transactions such as sale, transfer, purchase, barter, lease, or import of goods and/or services. India adopted a dual GST model, meaning that taxation is administered by both the Union and State Governments. Transactions made within a single state are levied with Central GST (CGST) by the Central Government and State GST (SGST) by the State governments. For inter-state

transactions and imported goods or services, an Integrated GST (IGST) is levied by the Central Government. GST is a consumption-based tax/destination-based tax, therefore, taxes are paid to the state where the goods or services are consumed not the state in which they were produced. IGST complicates tax collection for State Governments by disabling them from collecting the tax owed to them directly from the Central Government. Under the previous system, a state would only have to deal with a single government in order to collect tax revenue.

HSN code

HSN is an 8-digit code for identifying the applicable rate of GST on different products as per CGST rules. If a company has turnover up to ₹ 1.5 Crore in the preceding financial year then they need not mention the HSN code while supplying goods on invoices. If a company has turnover more than ₹ 1.5 Crore but up to ₹ 5 Cr then they need to mention the first two digits of HSN code while supplying goods on invoices. If turnover crosses ₹ 5 Cr then they shall mention the first 4 digits of HSN code on invoices.

Rate

The GST is imposed at variable rates on variable items. The rate of GST is 18% for soaps and 28% on washing detergents. GST on movie tickets is based on slabs, with 18% GST for tickets that cost less than Rs. 100 and 28% GST on tickets costing more than Rs.100 and 5% on readymade clothes. The rate on under-construction property booking is 12%.Some industries and products were exempted by the government and remain untaxed under GST, such as dairy products, products of milling industries, fresh vegetables & fruits, meat products, and other groceries and necessities. Checkposts across the country were abolished ensuring free and fast movement of goods. The Central Government had proposed to insulate the revenues of the States from the impact of GST, with the expectation that in due course, GST will be levied on petroleum and petroleum products. The central government had assured states of compensation for any revenue loss incurred by them from the date of GST for a period of five years. However, no concrete laws have yet been made to support such action. GST council adopted concept paper discouraging tinkering with rates.

E-Way Bill

An e-Way Bill is an electronic permit for shipping goods similar to a waybill. It was made mandatory for inter-state transport of goods from 1 June 2018. It is required to be generated for every inter-state movement of goods beyond 10 kilometres (6.2 mi) and the threshold limit of ₹ 50,000 (US$720). It is a paperless, technology solution and critical anti-evasion tool to check tax leakages and clamping down on trade that currently happens on a cash basis. The pilot started on 1 February 2018 but was withdrawn after glitches in the GST Network. The states are divided into four zones for rolling out in phases by end of April 2018. A unique e-Way Bill Number (EBN) is generated either by the supplier, recipient or the transporter. The EBN can be a printout, SMS or written on invoice is valid. The GST/Tax Officers tally the e-Way Bill listed goods with goods carried with it. The mechanism is aimed at plugging loopholes like overloading, understating etc. Each e-way

bill has to be matched with a GST invoice. It is a critical compliance related GSTN project under the GST, with a capacity to process 75 lakh e-way bills per day.

Intra-State e-Way Bill

The five states piloting this project are Andhra Pradesh, Gujarat, Kerala, Telangana and Uttar Pradesh, which account for 61.8% of the inter-state e-way bills, started mandatory intrastate e-way bill from 15 April 2018 to further reduce tax evasion. It was successfully introduced in Karnataka from 1 April 2018. The intrastate e-way bill will pave the way for a seamless, nationwide single e-way bill system. Six more states Jharkhand, Bihar, Tripura, Madhya Pradesh, Uttarakhand and Haryana will roll it out from 20 April 18. All states are mandated to introduce it by May 30, 2018.

Reverse Charge Mechanism

Reverse Charge Mechanism (RCM) is a system in GST where the receiver pays the tax on behalf of unregistered, smaller material and service suppliers. The receiver of the goods is eligible for Input Tax Credit, while the unregistered dealer is not. In the notification dated on 29th January 2019, the Indian government has finally implemented the RCM (reverse charge mechanism) which started from 1 February 2019 as per the GST acts and amendments. Also to note that the up to INR 5000 exemptions will be removed effectively.

Goods kept outside the GST

- Alcohol for human consumption.
- Petrol and petroleum products (GST will apply at a later date) viz. Petroleum crude, High speed diesel, Motor Spirit (petrol), Natural gas, Aviation turbine fuel.

GST Council

GST Council is the governing body of GST having 33 members. It is chaired by the Union Finance Minister. GST Council is an apex member committee to modify, reconcile or to procure any law or act or regulation based on the context of goods and services tax in India. The council is headed by the union finance minister Arun Jaitley assisted with the finance minister of all the states of India. The GST council is responsible for any revision or enactment of rule or any rate changes of the goods and services in India.

Goods and Services Tax Network (GSTN)

The GSTN software is developed by Infosys Technologies and the Information Technology network that provides the computing resources is maintained by the NIC. "Goods and Services Tax" Network (GSTN) is a nonprofit organisation formed for creating a sophisticated network, accessible to stakeholders, government and taxpayers to access information from a single source (portal). The portal is accessible to the Tax authorities for tracking down every transaction, while taxpayers have the ability of connect for their tax returns. The GSTN's authorised capital is ₹ 10 crore (US$1.4 million) in which initially the Central Government held 24.5 percent of shares while the state government held 24.5 percent. The remaining 51 percent were held by non-Government

financial institutions, HDFC and HDFC Bank hold 20%, ICICI Bank holds 10%, NSE Strategic Investment holds 10% and LIC Housing Finance holds 11% . However, later it was made a wholly owned government company having equal shares of state and central government. Indians adversely, especially the middle, lower middle and poorer income groups.

Conclusion

Technicalities of GST implementation in India have been criticized by global financial institutions, sections of Indian media and opposition political parties in India. World Bank's 2018 version of India Development Update described India's version of GST as too complex, noticing various flaws compared to GST systems prevalent in other countries; most significantly, the second highest tax rate among a sample of 115 countries at 28%. GST's implementation in India has been further criticized by Indian businessmen for problems including tax refund delays and too much documentation and administrative effort needed. According to a partner at PwC India, when the first GST returns were filed in August 2017, the system crashed under the weight of filings. The opposition Congress party has consistently been among the most vocal opponents of GST implementation in India with party President, and leader of the opposition, Rahul Gandhi, slamming BJP for allegedly "destroying small businessmen and industries" in the country. He went on to pejoratively dub GST as "Gabbar Singh Tax" after an ill-famed, fictional dacoit in Bollywood films. Blaming the implementation of gst as a "way of removing money from the pockets of the poor", Rahul has lamented it as a "big failure" while declaring that if Congress Party is elected to power, it will implement a single slab GST instead of different slabs. In the run-up to the elections in various states of India, Rahul has intensified his "Gabbar Singh" jibes on Modi government.

Key points of change in GST regime

Small and Medium traders and exporters were hurt most by the application of GST. It was crucial to Prime Minister Narendra Modi's plans to create millions of more jobs. Accordingly, the decisions were taken with a view to raise revenue and ease compliance. Following are the major changes in GST implementation taken to boost the growth rate of Indian economy and provide an environment for 'Ease of doing Business'.

1. Businesses with less than 1.5 crores annual turnover will file returns and pay taxes on a quarterly basis instead of monthly basis. Such businesses make up for nearly 90 per cent of tax assesses but contribute very little tax.
2. The GST council also agreed to raise the threshold for the composition scheme. This scheme allows small traders to pay a standard tax rate – from Rs. 75 lakh in turnover to Rs. 1 crore. These establishments pay standard tax rates; 1 per cent for traders, 2 per cent for manufacturers and 5 per cent for restaurants.
3. Reverse charge mechanism suspended till March 2018. This rule shifts the liability to pay the tax on the buyer rather than the seller and the supplier has to be registered under GST to check tax evasion.
4. The GST council agreed and advised the government to start issuing refund cheques from 10 October to exporters who had complained their working capital

was locked up. By April 1, 2018, the council also targeted to have e-wallets for every exporter to credit a notional amount as an advance credit to pay taxes.

5. The GST rates for textiles including zari, unbranded ayurvedic medicines, plastic and e-waste have been slashed by the council. The council comprises state finance ministers, officials from both states and the Centre and is headed by Union Finance Minister.
6. The RBI governor has suggested simplifying GST to boost growth and earlier cautioned also that "teething problems" with GST had impacted the manufacturing sector.
7. GST Council decided to defer registration of tax deduction and collection at source till March 31, 2018. Goods transporters who had threatened to go on strike, have been told services provided to unregistered entities would be exempted from GST.

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A STUDY ON COMPUTER GRAPHICS TECHNOLOGY WITH A REFERENCE OF MANAGEMENT OF COMMUNICATION RESOURCES

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ABSTRACT
The usage of computer graphics has been increased from last few years with the advancement of the computer technology. A good range of development of graphics technology is observed in the field of computer software with the increasing usage of the object-oriented technology and multimedia. Hence, the scope of the computer graphics has enhanced effectively and its usage can be seen in a number of fields.
With the advancement of the information technology, the usage of computer graphics has also increased in the field of communication resource management. The introduction of computer graphics in the communication management has certainly improved the quality of services. The current paper highlights the usage of computer graphics technology in the communication resource management.

KEYWORDS: Computer Graphics, Technology, Communication, Resource

INTRODUCTION
The whole scenario of the resource management has changed with the introduction of computer graphics in this area. Before the implementation of computer graphics technology in communication management, the many departments were placed in an equipment. The whole structure of the main system became more and more complex due to frequent up gradation of the system.
The overall utilization of the resources was also moving downward. The major work load was of iterative tasks and a lot of time was taken in order to operate and maintain a service. In this traditional way of resource management, there were much chances of the failure of the system. Also, a lot of time was consumed if there was a need to search a particular resource. Hence, there was no effective management at that time which could certainly manage the communication resource. Hence, the decision of implementing the technology of computer graphics was taken so that the efficiency of the whole system can be improved.
Under the implementation of the computer graphics technology, the process of graphicalizing the resources is performed so that the mainstream structure of the main resource system can be made simpler and there should be no problem for the new employees to understand the working of the main system. Hence, it can be said that the computer graphics technology is proving to be a game changer in the field of communication resource management.
Now, it has become for the authorities to monitor the communication resource in the real-time. Also, the security level of the resource management has also upgraded due to computer graphics. The efficiency of the while working communication structure has also improved effectively.
In communication resource management, for the purpose of transmission, three important components of data entities are used i.e. transmission room, wiring room and outside line. Now, it has become much easier to handle the difficulties of communication station

equipment at the time of heavy traffic load as the root cause of the fault can be detected easily with the help of computer graphics technology.

According to a research report, the work efficiency of the employees also tends to improve with the usage of the computer graphics in the communication resource management. Now, it has become easier to visualize the equipment room. With the help of graphics, the duty manager can differentiate the resources easily. Also, the status of the ongoing work can be checked in real-time by using the graphics technology. Any new employee can be made familiar with the resources easily through this graphics technology. Hence, it can be said that the scope of computer graphics in the field of communication resource management is appreciative.

COMPUTER GRAPHICS TECHNOLOGY FOR THE MANAGEMENT OF COMMUNICATION RESOURCES

The computer equipment in the communication resource management is taken as an example in this paper to analyze and explain the application of computer graphics technology in resource management. The purpose is to use computer graphics technology and combine the actual needs of the equipment in the communication resource management. The room equipment is displayed graphically on a computer. Various communications departments put into a large number of room and communications equipment. Due to the continuous upgrading of system equipment, the system structure is more and more complex.

The traditional way of resource management has been unable to meet the effective management of the entire communication resource needs. The proportion of intelligent equipment is growing, but it is still following the original site maintenance and query management in the resource management. The task is very heavy, and it is also inconvenient in the management and viewing. The application of computer graphics technology is used to solve the above problems, which replaces the traditional way of resource management. In addition, it improves the efficiency of resource managers and puts forward a new idea of resource management.

In communication resource management, the management user needs to manage and view each room in person. If the room equipment is displayed through the form of graphics, it can provide more conveniences for the work of managers. As shown in the Fig. 1, it shows the overall plan of the equipment room. Each plane in the figure represents a communication equipment of computer room. It is always clear for managers to visit as long as the manager to operate the room equipment. This structure greatly improves the work efficiency and avoids the trouble of personal appearance.

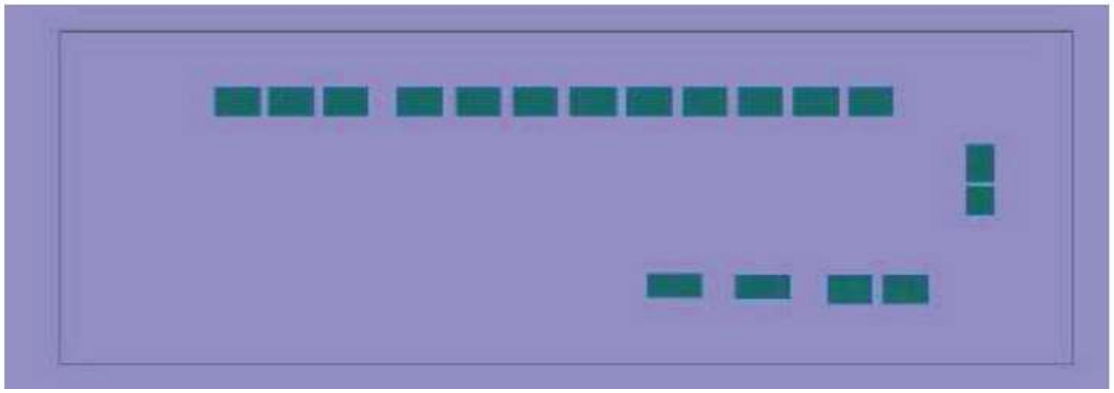

FIG. 1 The whole equipment plane graphics

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The previous section achieved the form of flat graphics of room equipment in communication resource management, and the following part represents the generation of equipment graphics in three-dimensional machine room. The three dimensional machine in room equipment is shown in the following figure:

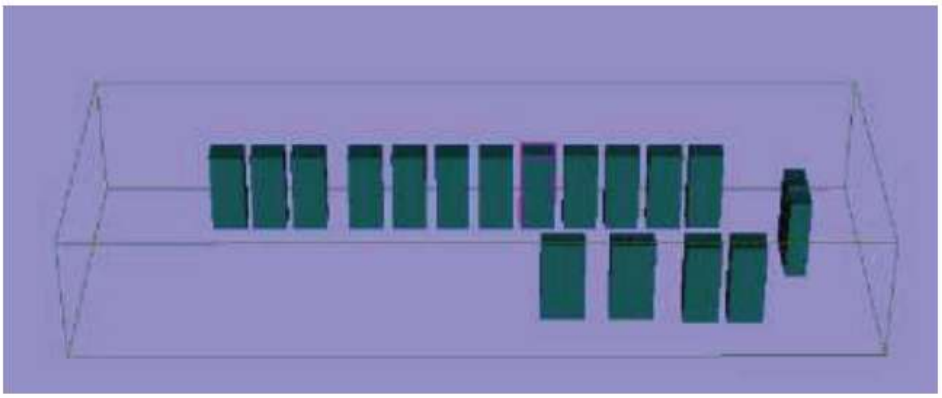

FIG. 2 The whole equipment three-dimensional graphics

FIG. 3 The equipment three-dimensional amplified graphics

DISCUSSION

The realities of the room equipment are three-dimensional. If the three-dimensional form is used to show the room equipment, making it more intuitive, vivid and more convenient for room equipment manager.

In the communication resource management, the three-dimensional graphics in room equipment can be enlarged, rotated and moved. The different positions of the equipment room can be seen more clearly. It provides convenience for the room equipment manager to understand and query the layout of the communications room and equipment specific placement.

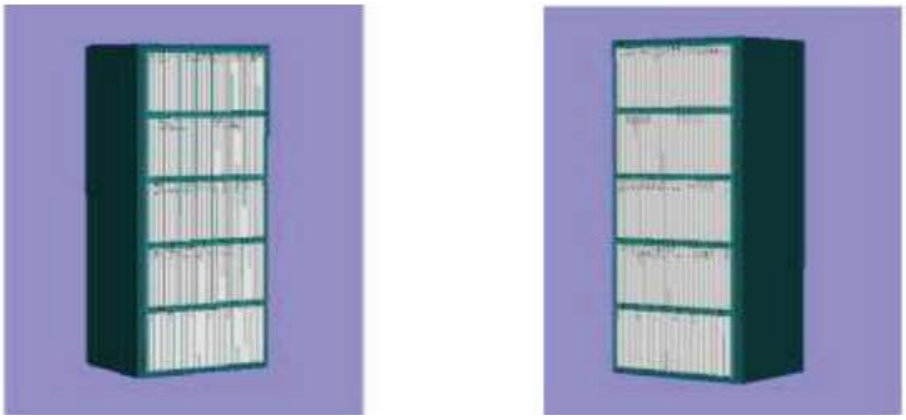

FIG. 4 the before and after of equipment rotary graphics

This paper mainly introduces the application of computer graphics technology in communication resource management, including the form of plane figure graphics in equipment room, the form of three-dimensional transformation in equipment room. In addition, three- dimensional transformation of machine room equipment graphics, three-dimensional graphics loading; the call of the stereoscopic graphics and the display of the font in the room drawing are also achieved. This process is elaborated in the communication resource management. The realization of the process in the computer room equipment is also elaborated in particular, which laid the foundation for further research and development.

CONCLUSION

With the development of computer technology, computer graphics technology has been widely used. The communication resource management system can realize the graphical management of the communication resources by means of the computer. And the real-time status of the communication network can be realized timely and accurately in the system. In addition, the digitization of the communication network resource management is also achieved. At the same time, there are some drawbacks of resource management. The traditional way of resource management has been unable to meet the needs of the entire social resources, which brought a lot of problems. Based on these reasons, the computer graphics technology used to the management of resources is proposed in this paper, so that the image of resource management is more vivid. This new technology is used to solve some practical problems, reduce the cost of resource management and improve work efficiency.

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KISAN CREDIT CARD SCHEME: WAY TO FINANCIAL INCLUSION

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ABSTRACT

The importance of an inclusive financial system has been widely recognized in the economy in recent years. Financial inclusion is seen as a policy priority in most of the developing countries. The same is the case with India. An inclusive financial system can help to reduce the growth of informal sources of credit which are often found to be exploitative. An all inclusive financial system enhances efficiency and welfare by providing avenues for secure and safe saving practices and by facilitating a whole range of efficient financial services. By means of this paper, an effort has been made to delve deep into the efforts undertaken by central bank of India for the purpose of financial inclusion by means of introducing Kisan credit card scheme. All the aspects pertaining to Kisan credit card scheme have been covered. Simultaneously, evidence has been taken from data sources to study the progress in this way.

KEYWORDS: Financial inclusion, financial exclusion, KCC.

INTRODUCTION

Financial inclusion is a process that ensures the ease of access, availability and usage of the formal financial system for all members of an economy. This definition emphasizes several dimensions of financial inclusion, viz., accessibility, availability and usage of the financial system. The promotion of an inclusive financial system is considered a policy priority in many countries. An inclusive financial system facilitates efficient allocation of productive resources and thus can potentially reduce the cost of capital. In addition, access to appropriate financial services can significantly improve the day-to-day management of finances.

Financial inclusion is important for improving the living conditions of poor farmers, rural non-farm enterprises and other vulnerable groups. Financial exclusion, in terms of lack of access to credit from formal institutions, is high for small and marginal farmers and some social groups. Apart from formal banking institutions, which should look at inclusion both as a business opportunity and social responsibility, the role of the self-help group movement and microfinance institutions is important to improve financial inclusion.

LITERATURE REVIEW

Leyshon and Thrift (1995) define financial exclusion as referring to those processes that serve to prevent certain social groups and individuals from gaining access to the formal financial system. According to Sinclair (2001), financial exclusion means the inability to access necessary financial services in an appropriate form. Exclusion can come about as a result of problems with access, conditions, prices, marketing or self-exclusion in response to negative experiences or perceptions. Carbo et al. (2005) have defined financial exclusion as broadly the inability (however occasioned) of some societal groups to access the financial system. The Government of India's 'Committee on Financial Inclusion in India' begins its report by defining financial inclusion "as the process of ensuring access to financial services and timely and adequate credit where needed by vulnerable groups such as the weaker sections and low income groups at an affordable cost" (Rangarajan Committee 2008).

OBJECTIVES OF THE STUDY

1. To study the Kisan credit card scheme.

2. To make state-wise and temporal comparison of the progress made by the scheme for financial inclusion.

SCOPE OF THE STUDY

This study is descriptive in nature. We have tried to thoroughly study the major aspects of Kisan Credit card scheme like features, benefits, eligibility, documents required, process involved etc. An effort has also been made to make temporal and state wise comparison of the performance of this scheme.

RESEARCH METHODOLOGY

For this study, secondary data has been collected through different articles, research papers and reports published about financial inclusion and kisan credit card scheme. Data on progress of Kisan Credit card scheme has been taken from the data sources of Reserve Bank of India. To analyze the data, simple tables have been used.

KISAN CREDIT CARD SCHEME

Kisan Credit Card (KCC) is an initiative by the Government of India to ensure that farmers of the country have access to credit at an affordable rate. This scheme was launched in August 1998 based on the recommendations of a special committee formed for inputs on loans and agricultural welfare. KCC may also be referred to as Kisan Credit Card Loan as it offers term loan to farmers in order for them to cover the costs of cultivation, harvest and farm maintenance.

It was found that farmers had to heavily rely on non-institutional credit sources for their farming needs such as purchase of seeds, pesticides, fertilizers, etc. Banks or other financial instuitions had lengthy and cumbersome processes which used to deter farmers from approaching them and also caused unnecessary delays. However, the informal or unorganized lending market exploited farmers. Their exorbitant interest rates ensured that the farmer community remained in debt perpetually. Hence, the Kisan credit card scheme was launched to guarantee availability of sufficient, timely and cost-effective funds to farmers in a hassle-free manner.

OBJECTIVES

The scheme aims at providing adequate and timely credit to the farmers under single window for fulfilling their cultivation and other needs as mentioned below:

- To meet the short term credit requirements for cultivation of crops
- Post harvest expenses
- Produce Marketing loan
- Consumption requirements of farmer household
- Working capital for maintenance of farm assets, activities allied to agriculture, like dairy animals, inland fishery and also working capital required for floriculture, horticulture etc.
- Investment credit requirement for agriculture and allied activities like pump sets, sprayers, dairy animals, floriculture, horticulture etc
- Short term credit requirements of rearing of animals, birds, fish, shrimp, other aquatic organisms, capture of fish.

FEATURES OF THE SCHEME

- All agricultural farmers are eligible to get benefit from the Kisan Credit Card Scheme. This includes farmers who own their own land, tenant farmers, share croppers and lessees.

- The National Crop Insurance Scheme covers the crops eligible for KCC. The scheme offers some protection to the farmers in a poor crop season.
- The biggest advantage of this scheme is the simplicity of the credit process. This translates into quicker and timely availability of funds for the farmers.
- There is a lot of flexibility in the repayment tenure of the Kisan Credit Card Loan. There is also a possibility of extending the repayment period in case of a bad crop turnout due to natural calamities. Farmers are also offered subvention for timely and prompt repayments.
- It ensures assured availability of financial resources at affordable interest rates.
- It provides insurance coverage (personal accident and asset) for the recipient of the KCCs.
- It provides facility to withdraw cash as per the farmer's requirements.

SCOPE OF SCHEME

At the time of launch, the KCC Scheme worked towards helping the farmers to meet their production related expenses. However, later the scope got expanded and now farmers can use this scheme to raise funds for other allied expenses as well like expenses related to crop production, Working Capital needs, expenses towards maintenance of farming assets and other allied activities such as dairy animals, marketing related expenses.

ELIGIBILITY

- All farmers-individuals/Joint borrowers who are owner cultivators.
- Tenant farmers, Oral lessees and Share Croppers etc.
- SHGs or Joint Liability Groups of farmers including tenant farmers, share croppers etc.,
- The criteria for eligible beneficiaries under KCC for Animal Husbandry and Fisheries is as follows

QUANTUM OF LOAN

A host of factors are taken into account by the lending institutions while deciding the quantum of loan. These include the crop being cultivated, size or area of cultivation, farmer's earning ability and previous credit history. Quantum of loan for 1st year will be assessed on the basis of Cost of cultivation, post-harvest expenses and farm maintenance cost. For subsequent years, loan will be sanctioned on the basis of increase in scale of finance.

COLLATERAL SECURITY

The broad guidelines regarding the collateral security for Kisan Credit Card Loans are decided by RBI and communicated from time to time. However, the financial institutions participating in the Kisan Credit Card Scheme are allowed to make variations provided they comply with the overall guidelines. Hence, they differ in their collateral security requirements. Collateral security is waived for KCC limit upto Rs. 1 lac.

RATE OF INTEREST

Kisan Credit Card loan interest rate is at the discretion of the bank / financial institution. Though the same is monitored by the RBI and is usually in line with the Base Rate. Apart from the interest on the loan, there are some other additional charges involved in the Scheme. These include processing fees, insurance premium, etc. However, in many cases the lending institutions waive off these charges for the interest of the farmers.

REPAYMENT TENURE

The repayment tenure of the Kisan Credit Card Loan is determined by the bank or the financial institution offering the credit. It takes place only after harvest. For short term credit, they usually take into account the anticipated harvesting and marketing period of the crops. Long term loans are generally repayable within five years of disbursement. The repayment period may be fixed as per the anticipated harvesting and marketing period for the crops for which a loan has been granted

INSTITUTIONS OFFERING KISAN CREDIT CARD LOAN

Kisan Credit Card is offered by many public sector banks, co-operative banks and rural banks in India. Some of these are State Bank of India (SBI), Bank of India (BOI), Industrial Development Bank of India (IDBI), NABARD, National Payments Corporation of India (NPCI).

ADVANTAGES TO FARMERS

- Simplifies disbursement procedures
- Removes rigidity regarding cash and kind
- No need to apply for a loan for every crop
- Assured availability of credit at any time enabling reduced interest burden for the farmer.
- Helps buy seeds, fertilizers at farmer's convenience and choice
- Helps buy on cash-avail discount from dealers
- Credit facility for 3 years – no need for seasonal appraisal
- Maximum credit limit based on agriculture income
- Any number of withdrawals subject to credit limit
- Repayment only after harvest
- Rate of interest as applicable to agriculture advance
- Security, margin and documentation norms as applicable to agricultural advance
- Access to adequate and timely credit to farmers
- Full year's credit requirement of the borrower taken care of. Minimum paper work and simplification of documentation for withdraw of funds from the bank.
- Flexibility to draw cash and buy inputs.
- Assured availability of credit at any time enabling reduced interest burden for the farmer. Flexibility of drawals from a branch other than the issuing branch at the discretion of the bank.

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PROGRESS OF KCC SCHEME
I: COMMERCIAL BANKS

Sr. No.	State/UT	Commercial Banks			
		Number of Operative KCCs(in '000)		Amount outstanding under Operative KCCs(in ₹ billion)	
		2017	2018	2017	2018
	Northern Region	**4,024**	**4,108**	**1,343.7**	**1,387.8**
1	Haryana	659	677	268.4	281.4
2	Himachal Pradesh	209	213	34.7	36.4
3	Jammu & Kashmir	275	300	35.0	38.3
4	New Delhi	5	3	2.8	2.6
5	Punjab	863	872	492.1	488.1
6	Rajasthan	2,004	2,040	505.3	538.2
7	Chandigarh	10	4	5.4	2.7
	North-Eastern Region	**672**	**785**	**41.5**	**50.9**
8	Assam	497	583	31.3	38.5
9	Arunachal Pradesh	8	9	0.5	0.6
10	Meghalaya	57	54	3.1	3.8
11	Mizoram	12	11	0.8	0.8
12	Manipur	15	16	1.1	1.2
13	Nagaland	33	28	1.6	1.4
14	Tripura	46	79	2.6	4.3
15	Sikkim	5	5	0.5	0.3
	Western Region	**3,522**	**3,298**	**649.1**	**628.8**
16	Gujarat	1,071	1,086	266.7	295.8
17	Maharashtra	2,443	2,204	380.4	331.0
18	Goa	7	7	1.8	1.8
19	Daman and Diu	-	-	0.1	0.1
20	Dadra and Nagar Haveli	1	1	0.2	0.1
	Central Region	**6,719**	**6,333**	**1,099.5**	**1,067.4**
21	Uttar Pradesh	4,469	4,226	648.6	592.1
22	Uttarakhand	389	236	64.2	47.6
23	Madhya Pradesh	1,642	1,643	344.1	381.8
24	Chhattisgarh	219	228	42.6	45.8
	Southern Region	**4,917**	**5,424**	**979.0**	**941.1**
25	Karnataka	947	893	287.8	241.2
26	Kerala	311	310	119.8	121.2
27	Andhra Pradesh	1,777	1,875	235.9	242.9
28	Tamil Nadu	507	544	134.3	157.3
29	Telangana	1,359	1,796	195.1	177.1
30	Lakshdweep	-	-	-	-
31	Puducherry	16	4	5.9	1.5
	Eastern Region	**3,514**	**3,581**	**237.2**	**255.2**
32	Odisha	604	655	45.0	48.5
33	West Bengal	824	1,004	53.4	73.6
34	Andaman and Nicobar Island	-	-	-	-
35	Bihar	1,444	1,322	111.2	104.8
36	Jharkhand	642	600	27.6	28.2
	Total	**23,368**	**23,528**	**4,350.0**	**4,331.1**

It can be concluded from the above data that central region tops the list of states with no of operative kisan credit cards and the total amount outstanding under kisan credit cards. From the northern region, Punjab has issued the highest no of kisan credit cards. In North east, Assam tops the list whereas in western region the tag is awarded to Maharashtra. Uttar Pradesh has highest users of KCC in central region with Andhra Pradesh being first from southern region and Bihar from eastern region. It can also be observed that there is only a meagre increase of 0.684% in the number of operative KCCs from the year 2017 to the year 2018. However, there has been a decrease of 0.434% in the amount outstanding under operative KCC from the year 2017 to the year 2018.

II: COOPERATIVE BANKS

Sr. No.	State/UT	Co-operative Banks			
		Number of Operative KCCs(in '000)		Amount outstanding under Operative KCCs(in ₹ billion)	
		2017	2018	2017	2018
	Northern Region	**5,749**	**5,708**	**269.7**	**296.7**
1	Haryana	1,233	1,196	87.1	93.4
2	Himachal Pradesh	88	92	11.9	13.3
3	Jammu & Kashmir	10	11	0.4	0.6
4	New Delhi	1	1	0.1	0.1
5	Punjab	988	953	72.3	71.7
6	Rajasthan	3,429	3,455	97.9	117.6
7	Chandigarh	-	-	-	-
	North-Eastern Region	**106**	**113**	**1.2**	**1.3**
8	Assam	2	3	0.1	0.1
9	Arunachal Pradesh	1	1	-	-
10	Meghalaya	16	17	0.3	0.3
11	Mizoram	1	1	NA	0.1
12	Manipur	-	-	-	-
13	Nagaland	4	4	0.1	0.1
14	Tripura	73	79	0.6	0.6
15	Sikkim	8	8	0.1	0.1
	Western Region	**5,622**	**4,773**	**259.9**	**277.9**
16	Gujarat	1,415	1,067	78.2	85.6
17	Maharashtra	4,205	3,704	181.5	192.1
18	Goa	2	2	0.2	0.2
19	Daman and Diu	-	-	-	-
20	Dadra and Nagar Haveli	-	-	-	-
	Central Region	**11,632**	**11,501**	**201.5**	**231.8**
21	Uttar Pradesh	4,431	4,468	58.3	56.7
22	Uttarakhand	350	269	9.6	9.7
23	Madhya Pradesh	5,404	5,774	122.0	149.7
24	Chhattisgarh	1,447	990	11.6	15.7
	Southern Region	**7,211**	**6,821**	**273.7**	**307.0**
25	Karnataka	2,493	2,447	107.3	116.7
26	Kerala	814	629	28.3	29.9

27	Andhra Pradesh	1,570	1,545	68.6	73.3
28	Tamil Nadu	1,311	1,364	42.3	56.8
29	Telangana	1,017	830	27.0	30.3
30	Lakshdweep	-	-	-	-
31	Puducherry	6	6	-	-
	Eastern Region	**5,563**	**4,579**	**116.1**	**130.1**
32	Odisha	3,537	2,873	77.7	90.9
33	West Bengal	1,857	1,540	34.8	35.5
34	Andaman and Nicobar Island	6	5	0.1	0.1
35	Bihar	136	141	3.2	3.3
36	Jharkhand	26	20	0.3	0.3
	Total	**35,883**	**33,495**	**1,122.0**	**1,244.8**

Above data represents that central region tops the list of states with no of operative kisan credit cards and the total amount outstanding under kisan credit cards in case of Co-operative banks also. From the northern region, Rajasthan has issued the highest no of kisan credit cards. In North east, Tripura tops the list whereas in western region the tag is awarded to Maharashtra. Madhya Pradesh has highest users of KCC in central region with Karnataka being first from southern region and Odisha from eastern region. It can also be observed that there is a decrease of 1.081% in the number of operative KCCs from the year 2017 to the year 2018. Contrary to it, there has been an increase of 10.944% in the amount outstanding under operative KCC from the year 2017 to the year 2018.

III: REGIONAL RURAL BANKS

Sr. No.	**State/UT**	**Regional Rural Banks**			
		Number of Operative KCCs(in '000)		**Amount outstanding under Operative KCCs(in ₹ billion)**	
		2017	**2018**	**2017**	**2018**
	Northern Region	**1,040**	**1,108**	**193.1**	**246.1**
1	Haryana	225	241	34.6	61.6
2	Himachal Pradesh	39	41	4.6	5.2
3	Jammu & Kashmir	62	65	5.3	6.1
4	New Delhi	-	-	-	-
5	Punjab	130	138	38.7	45.9
6	Rajasthan	585	623	109.8	127.3
7	Chandigarh	-	-	-	-
	North-Eastern Region	**434**	**441**	**13.6**	**14.1**
8	Assam	289	284	9.9	10.4
9	Arunachal Pradesh	3	3	0.1	0.1
10	Meghalaya	19	19	0.9	1.0
11	Mizoram	7	13	0.9	0.7
12	Manipur	7	8	0.2	0.3
13	Nagaland	1	1	-	-
14	Tripura	107	113	1.5	1.6
15	Sikkim	-	-	-	-
	Western Region	**643**	**653**	**69.8**	**67.1**

16	Gujarat	284	305	36.0	42.9
17	Maharashtra	359	348	33.8	24.2
18	Goa	-	-	-	-
19	Daman and Diu	-	-	-	-
20	Dadra and Nagar Haveli	-	-	-	-
	Central Region	**3,876**	**3,993**	**354.1**	**379.2**
21	Uttar Pradesh	3,136	3,266	277.2	296.8
22	Uttarakhand	49	47	3.0	3.0
23	Madhya Pradesh	514	501	63.7	69.1
24	Chhattisgarh	178	179	10.2	10.3
	Southern Region	**3,144**	**3,355**	**250.3**	**295.1**
25	Karnataka	738	719	85.3	91.3
26	Kerala	150	149	12.0	12.7
27	Andhra Pradesh	767	843	65.7	81.3
28	Tamil Nadu	303	432	18.2	27.6
29	Telangana	1,183	1,211	68.9	82.1
30	Lakshdweep	-	-	-	-
31	Puducherry	1	1	0.1	0.1
	Eastern Region	**3,134**	**2,643**	**143.4**	**132.0**
32	Odisha	596	581	23.1	24.7
33	West Bengal	511	332	23.6	13.6
34	Andaman and Nicobar Island	-	-	-	-
35	Bihar	1,667	1,361	84.4	79.6
36	Jharkhand	361	369	12.3	14.1
	Total	**12,271**	**12,193**	**1,024.2**	**1,133.6**

Data given above exhibits that central region tops the list of states with no of operative kisan credit cards and the total amount outstanding under kisan credit cards in case of Co-operative banks also. From the northern region, Rajasthan has issued the highest no of kisan credit cards. In North east, Assam tops the list whereas in western region the tag is awarded to Maharashtra. Uttar Pradesh has highest users of KCC in central region with Telangana being first from southern region and Bihar from eastern region. It can also be observed that there is a decrease of 0.635% in the number of operative KCCs from the year 2017 to the year 2018. Contrary to it, there has been an increase of 10.681% in the amount outstanding under operative KCC from the year 2017 to the year 2018.

CONCLUSION

The above discussion can be briefed with the final note that Kisan Credit Card scheme has proved to be successful measure for financial inclusion in the Indian economy. It has been observed that commercial banks have shown a rise in the cards issued whereas the amount outstanding under operative KCCs has decreased. Contrary to the trend being followed by commercial banks, both cooperative and regional rural banks have shown a decrease in the number of operative KCCs whereas the amount outstanding under operative KCCs has increased.

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INTEROPERABILITY OF AUDIO/VIDEO DEVICES: WORKING AND COMPONENTS

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Abstract: Using multiple resources for various tasks and assign a new resource for each task is not so efficient because it can increase the cost and also require more electric power to work but using one resource in such a way that it can be shared across multiple devices is very time and cost efficient way to use various audio video devices. This is known as Interoperability. AUDIO VIDEO INTEROPERABILITY helps media devices to use the one resource by multiple devices, in this way one resource can be used instead of using multiple resources .In this way cost can be reduce. This paper focuses on various aspects including introduction to interoperability, working model, benefits of using devices with Interoperability.

Key Words: *Interoperability ,Resources ,Efficient ,Aspects*

INTRODUCTION: Interoperability of audio and videos devices is a Way for making the communication between different types of home based entertainment and communication devices. It permits such kind of devices to communicate and to be controlled from a single device such as a TV. It enables the users are to make communication devices using a standard set of steps independent of the manufacturer or device. Computers can join an AVI setup. This standard is based on satisfying the desires of the user for audio and video. AVI may contain a PC, a laptop, a printer, a TV and set-top box in the room, another TV in the main bedroom, CD player and Home theatre system with wireless speakers. This enables users to watch programs from the set-top box on the drawing room TV, print from both devices to the printer, play music from the DVD/CD player to wireless speakers in the drawing room and many other functions .An AVI setup connects all the devices with each other and enable the control of all devices using a single controller. The setup also makes the inclusion of latest devices by computerize process of integrating the devices based on Home-Entertainment. In today's time of period, a home contains various types of complicated devices and gadgets. Most of them are devices related to handling different audio/video data that are based on home entertainment. Such types of the devices are computers in nature and specialized in their characteristics than a simple PC. AVI is a type of technology that is very popular in these days because a house might contain several computer and other devices based on entertainment that need resources which should be shared resources like wireless speakers or printers etc. Home based entertainment devices of audio and video categories includes like DVC, TV, CD , amplifier, TVtuner Wireless speaker or set-top box and stereo player etc are examples of Devices that form interconnected network based on Home-entertainment..

Features: Various features of AVI system are given below-:

- **Protection:** In HAVI network , signed applications are recognized by it .By this process the full functionality is provided to signed applications and limited functionality is provided to un-signed applications within the network .In this way

authentication process helps to improves the security of network by providing protection for the user.

- **Interoperability:** HAVI provides interoperability of home-based entertainment devices like audio-video devices and networking devices .It ensures the interoperability between various audio-video devices.
- **Coordination of the Functions:** It coordinates the functionality and functions of the existing devices in home-based network .All the new added devices to home-network get registered so that other devices will be able to know the functionality of new added devices.
- **Automatic Detection:** It automatically detects the existing devices in the home-network. Moreover, it also detects the newly added devices to current network.
- **Applications and User Interface:** It automatically installs the software, applications and user-interface on each connected device in home-based network.
- **Allows Interpretability:** It permits the home-based network to control the functionality of present devices in the home-based network
- **Independence:** Generally, home-based devices are manufactured by various vendors but they can make communication with each other with the use of AVI network .For example- various entertainment devices like home theatre system ,DVD player, TV, Set-Top boxes etc ,can be controlled with the help of one remote.
- **Devices with Plug and Play Capabilities:** In AVI network, all devices automatically notify about their existence and functionality to the devices present on the AVI network .This makes the process of installation and set-up simple.
- **Automatic Up-gradation Process:** In HAVI network, all connected devices automatically upgraded by the functionality of Updates which can be installed by downloading or uploading via the Internet.

Working: A set of software programs with the protocols and APIs are required to achieve the goal of interoperability for home based audio video devices .During this process device abstraction will be used with the help of various kinds of device based control models. For purpose of adding the functionality of interoperability, we can use an addressing scheme and lookup service for setting-up the HAVI network for using the same type of resources .In the HAVI system ,which require an open execution environment which has the ability to support the presentation that can be visualized and having control of devices for providing runtime support for applications based on third party .We required a Communication mechanism for extending the existing environment dynamically by enhancing the plug-and- play capabilities. We can implemented the HAVI based system in any kind of the programming language on real-time Operating system on any CPU. Architecture of HAVI is shown in fig.1.

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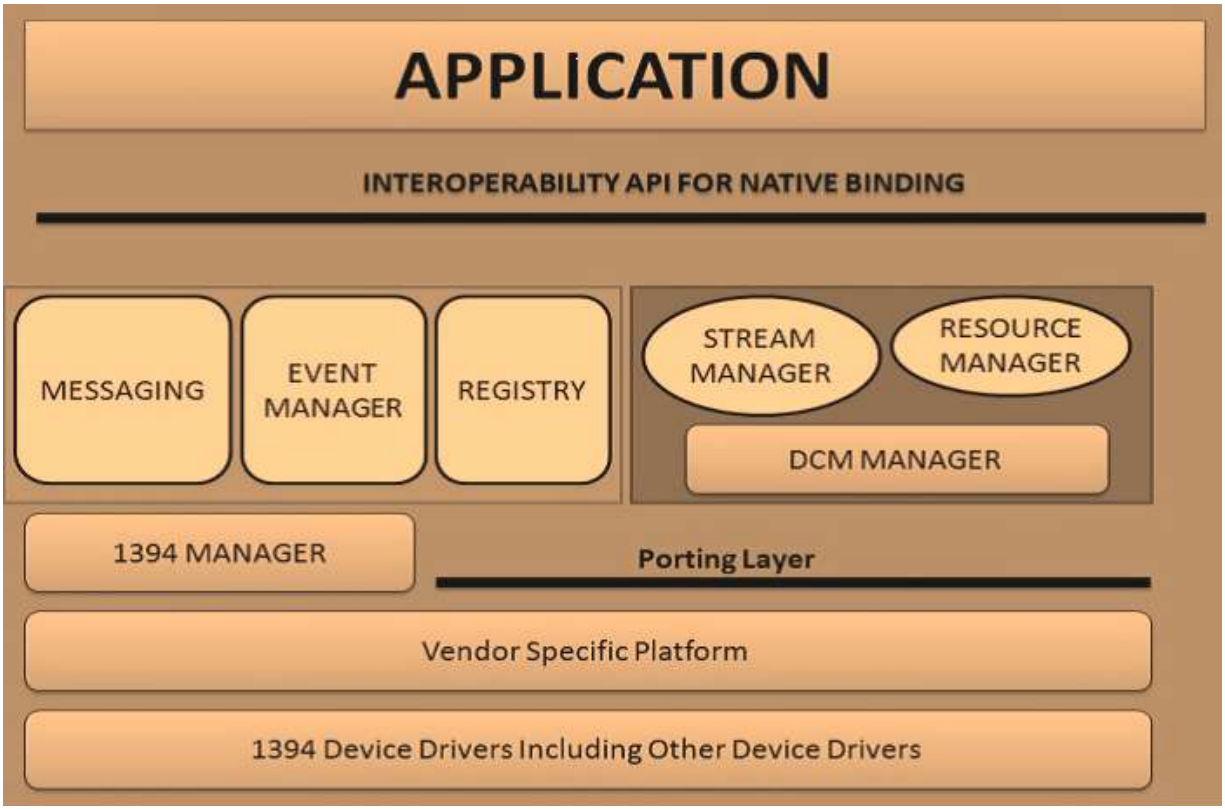

Fig. 1: Architecture of AVI

Components: Various components of Audio Video Interoperability system is given below-:

- **1394 Communication Media Manager:** It will permits perform asynchronous by software elements and isochronous communication
- **Messaging System:** It is allows passing messages between software elements.
- **Registry:** It works as a directory service which permits any object to locate another object on the home network.
- **Event Manager:** It works as an event delivery service. Event is the change in state of the HAVI network
- **Stream Manager:** In HAVI network, Stream manager is helps to manage digital data transfer of AV and other media.
- **Resource Manager:** It permits the sharing of same resources and scheduling of various types of actions.
- **Device Control Module (DCM):** In HAVI network, software elements are used for controlling a device DCM code units are used for obtaining DCM.DCM code unit includes: Code for the DCM and Code for Functional Component Modules.
- **DCM Manager:** In HAVI network, a DCM manager is used for installation and removal of the DCM code units.

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CONCLUSION: The IOT and technology of interoperability made the things easier to share same resources across multiple platforms. This type of technology is really helpful for cut the cost of using multiple recourses. There is no doubt that such type of systems are helpful for interoperability ,but still there is need to explore such type of technologies on more higher levels. In the future there will be advancement in the field of audio video interoperability.

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A DETAILED STUDY ON INVENTORY MANAGEMENT AND PROCUREMENT MANAGEMENT IN RETAIL PHARMACY

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Abstract
It is impossible to forecast demand even with computer accuracy or to be certain about suppliers' performance. The forecast of demand for the next period of time may not turn out to be exact. To add to this is the uncertainty of the efficiency of suppliers in delivering ordered medicines on time. Sufficient inventory should tackle fluctuations in supply and demand and reduce the risk of stock outs. If there are regular stock outs, patients lose confidence in the pharmacy. Maintaining or holding stock reduces the risk of stock-outs, and thus satisfies the needs of clients. Procurement in a retail pharmacy is defined as the process of acquiring supplies from licensed, authorized agencies, wholesalers/distributors. An effective procurement process ensures that medicines and other health care products are readily available in the pharmacy in sufficient quantities, at reasonable prices, and at recognized standards of quality. The pharmacy should develop and maintain a safe, effective, operational and socio-economically acceptable procurement and inventory management.

Keywords: Medicines, Supply, Demand

Introduction
The objective of good inventory management is to maintain a steady supply of medicines to clients while minimizing the costs of holding inventory and managing procurement. Stock records are the core records in the inventory management system. These records determine the quantities to be reordered. Stock records can be either manual or computerized. The choice between manual and computerized quantification may be decided by individual pharmacists, but the process is much easier with computer assistance. Ordering in bulk allows quantity discounts / schemes from suppliers, thus reducing the unit cost of medicines. Emergency orders are needed to cope with shortages or stock outs. Shortages may result in loss of business/clients when frequent stock outs occur. Purchasing costs increase when medicines are ordered frequently. Medicines can be delivered less frequently, enabling transport resources to be used more economically. Changes in the demand for specific medicines are often unpredictable, and an adequate inventory allows the system to cope with demand fluctuations. The Pharmacist should ensure that the sources of supply of medicines and other items meet the standards laid down by the law. Pharmacist also has the responsibility to protect the interests of the patients and the pharmacy by purchasing the medicines from the authorized sources.

Discrimination between high-cost and low-cost items, or between items that move quickly and those that are rarely used, is essential to prevent accumulation of slow-moving stock and excess capital tied up in inventory.

The pharmacist should ensure supplier reliability with respect to service and quality of medicines. A written communication regarding the list of authorized representatives of the supplier and their specimen signatures should be obtained and archived. All errors made by the suppliers, nature of errors, repetition of same errors, method and time frame of rectification should be documented and reviewed periodically to prevent their recurrence.

The most accurate way to determine quantities to be ordered is to start with past consumption data (sale) of medicines. This data should take into consideration, the known or expected changes in morbidity patterns, seasonal factors, procurement time, and prescribing patterns. This will also depend on the maximum and minimum stock level (for a particular medicine) desired to meet the requirements till the next order. The need for the medicine will depend on the consumption information (sale of the medicines).Whenever stock in hand reaches the minimum reorder level, that medicine will have to be selected for procurement.

The procurement methods include perpetual, annual and scheduled purchasing. The selection of the method will depend on which method is convenient for the individual pharmacy. Also, the method that has been successfully employed in the pharmacy in the past is likely to be employed in the future too, if it is proving to be beneficial. Once the needed medicines are procured and checked, they have to be stored appropriately, ready for sale. .Based on the pattern and quantity of sale, consumption information of medicines can be collected.

Once the medicines and the quantity to be procured are selected, suppliers have to be selected based on past experience about the reliability of the supplier. The reliability of the supplier is not only with regard to the timely delivery of orders, but also with respect to the quality of medicines supplied, rates, and other services. Vendor audits and audit reports can be of great help in locating and selecting reliable suppliers.

The contract terms have to be decided before transactions begin. This includes the mode of payment, the schedule for payment, the time required for delivery of ordered medicines, etc. Monitoring order status is important to make sure that orders are delivered on time and any medicines not delivered can be reordered from a different source.

Medicines that are received by the pharmacy should be received in a quarantine area and then checked against the invoice for correctness. The medicines requiring cold chain have to be checked for storage during transit and quickly placed in the refrigerator. The medicines received should be tallied with the order list.

Once the order list is ready, authorized suppliers have to be identified and located. Alternatively, computer programs in the inventory software can be used to assist in generating orders, supplier wise. The pharmacist should ensure that the sources of supply of medicines meet the standards laid down by the law. Orders may be placed over the telephone or sent in writing to wholesalers/suppliers. Many a times, a representative of the supplier comes to pharmacies for collecting orders. Fax, internet can also be used. Regardless of how medicines are ordered, the order list must be clearly communicated. This saves time as well as transport costs that would have to be incurred (for replacement) if wrong medicines are sent. A duplicate copy of the order should be retained to countercheck/tally what was ordered and what was supplied.

ABC Analysis

This is a method of inventory control, which categorizes items by volume and value of consumption during a specific period of time.

Class A: - Contains 10- 20 % of total items, which involve 75-80% of total expenditure - high volume and fast moving stocks.

Class B: - Contains 10 -20 % of total items, which involve 15-20 % of total expenditure.

Class C: - Contains 60-80 % of total items, which involve 5- 10% of total expenditure - low volume and slow moving stocks.

Note:-*ABC analysis can be used to give priority to Class A items in procurement and inventory control.

*Class C is a good place to look for items that might not be needed in stock at all times.

Objectives

- To know the basis of selecting a medicine to be procured, and determining the quantity needed.
- To know how to choose a procurement method.
- To understand the factors underlying reordering of medicines.

Hypothesis

H1: There is need to change by the Pharmacist in the Management of Retail Medical Stores.

Data analysis

To test the hypothesis "There is need to change by the Pharmacist in the Management of Retail Medical Stores" one-way ANOVA test is applied taking overall importance of good pharmacy practices as fixed factor and factors representing good pharmacy practices as dependent factors.

Descriptive					
		N	Mean	Std. Deviation	Std. Error
How important is to access Patient Medication Record (PMR) to check frequency of administration & the way of administration of prescribed medicines?	Somewhat Important	61	3.0656	0.81382	0.1042
	Neither Important nor Unimportant	39	3.0256	0.84253	0.13491
	Total	100	3.05	0.82112	0.08211
How important is to explain the sales literature & label/ package inserts of medicines to the patient?	Somewhat Important	61	3.0492	1.16084	0.14863
	Neither Important nor Unimportant	39	3.0513	1.29673	0.20764
	Total	100	3.05	1.20918	0.12092
How important is to counsel patient for the use of medicines?	Somewhat Important	61	3.8689	0.80572	0.10316
	Neither Important nor Unimportant	39	3.9487	0.79302	0.12698
	Total	100	3.9	0.79772	0.07977
How important to you is it to verify the legality, genuineness and completeness of a prescription before dispensing it with the Registered Medical Practitioner?	Somewhat Important	61	2.5246	1.33674	0.17115
	Neither Important nor Unimportant	39	2.4103	1.25064	0.20026
	Total	100	2.48	1.29864	0.12986

The above table shows that in majority of the cases the total mean value of the factors representing good pharmacy practices is less than 3.5.It is concluded that hypotheses i.e. there is a need to change by the Pharmacist in the Management of Retail Medical Stores is accepted.

Recommendations

- Pharmacist must explain the sales literature, labels/packages and/or inserts of the medicines.
- Pharmacist must assess the Patient Medication Record (PMR).
- Pharmacist must provide an Envelope which provides information such as name of the pharmacy and name and quantity of medicine supplied.
- Pharmacist must supply Patient Information Leaflet (PIL) which contain information about the chemical nature of active drug, formulation, symptoms, use and dosages of medicines.
- Pharmacist must Stamp the Prescription with 'DISPENSED' stamp on completion of dispensing.
- Pharmacist must inform the patient on action to be taken if the symptoms do not improve within a particular number of days.
- Pharmacist as a part of the Professional services must have a Separate Blood pressure, blood sugar tests, and weight & height check area.
- The fire extinguishers and electricity generator should be checked half yearly.
- Optimum stock levels should be maintained, and regularly monitored for expiry.
- The design of storage areas should facilitate appropriate storage of medicines.
- Cleanliness should be maintained in the pharmacy.
- Adequate measures should be taken in case of returned medicines and recalled products.
- The pharmacist should maintain "Product List", along with the retail price, where all items approved by the pharmacy for stocking.
- A separate list of important medicines including essential and life saving medicines should be prepared

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Behavior and Job Engagement

NeerajMehra

Abstract

The affective-motivational state of job engagement has been shown to differ between jobs with different features, but its possible links with employees' personal attributes have less often been studied. Engagement was forecast to be a primary function of personality issues and sub-issues which match its affective and motivational elements, namely Emotional Stability and more energized forms of Extraversion and Conscientiousness. Predictions were confirmed in correlational and regression analyses across three studies. Theoretical frameworks in this area should extend to personal features in addition to covering job content, and practical benefits can follow from engagement-relevant staff selection and development as well as from appropriate job design.

In studying employees' well-being, attention has traditionally been emphasized on the construct of job satisfaction, a moderately passive experience of low-to-moderate activation. Recently, this type of well-being has been complemented by the more energized form referred to as job engagement. Engaged employees feel optimisticly about their situation, but beyond mere satisfaction they are motivated to expend energy on a task. Thus Leiter and Bakker (2010, p.

Defined job engagement as "a optimistic, fulfilling, affective-motivational state of work-related well-being", and the review by Bakker, Albrecht, and Leiter (2011) identified a "growing consensus that engagement can be defined in terms of high levels of energy and high levels of involvement in work" (p. 22). See also, for instance, Inceoglu and Fleck (2010), Kahn (1990), Rich, Lepine, and Crawford (2010), and Schaufeli, Salanova, González-Roma, and Bakker (2002).

It is widely agreed that engagement arises from both personal and environmental sources (Macey & Schneider, 2008). However, theoretical discussions and empirical investigations have so far accentuatedone of those, mainly examining engagement as a response to features of the job. Thus Schaufeli and Bakker (2004), Shirom (2010) and others (not denying the role of within-person issues) have investigated key job features such as autonomy, demands, conflicts and good relations with other people, and Rich, Lepine, and Crawford (2010) developed and tested a model incorporating organizational support.

However, there is also a essential to develop understanding of engagement's bases within individuals themselves. More engaged and less engaged employees are likely to differ in certain traits as well as in the nature of their jobs, but few studies or models of possible personality contributors to job engagement have been published. The meta-analysis by Halbesleben (2010) identified a small number of reports about optimism and self-efficacy (e.g., Xanthopoulou, Bakker, Demerouti, and Schaufeli, 2009a), but

comprehensive information about a wider range of traits appears to be lacking. For instance, within the widely-applied Big Five taxonomy (Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness) it has yet to be determined which issues are or are not relevant to engagement. Langelaan, Bakker, Van Doornen and Schaufeli (2006) considered relationships with only two of those, Neuroticism and Extraversion, but in a five-issue comparisoncontrolling for some job variables Kim, Shin and Swanger (2009) found that Conscientiousness alone was significant. Additional information and theorizing are required.

First, we essential to learn more about all five issues' possible associations with employees' engagement; and, second, research and theories should additionally consider possible differences between elements within certain of those issues (e.g., Tett, Steele, & Beauregard, 2003). For example, studies have distinguished empirically and conceptually between two sub-issues of Conscientiousness – active industriousness sometimes referred to as Achievement Orientation, and diligent, rule-following Dependability with its emphasis on orderly, hard-working reliability (e.g., Roberts, Chernyshenko, Stark, & Goldberg, 2005). Similarly, distinguishable facets of Extraversion have been identified as Affiliation (strongly desiring social interaction) and Social Potency (proactivity in influencing other people) (e.g., DeYoung, Quilty, & Peterson, 2007).

Given that job engagement is defined as moderately activated and energized, it can be forecast that aspects of personality that are themselves more activated and energized will be reflected in engagement. Thus, in addition to possible associations with the broad issues of Neuroticism and overall Extraversion (as identified earlier), stronger links with job engagement are forecast for the more energized components of Extraversion and Conscientiousness, namely Social Potency and Achievement Orientation.

The engagement studies reported here are unique in distinguishing between components of those kinds within a comprehensive assessment of all five issues of personality. In addition to sub-issue predictions (above), engagement is expected to be primarily associated with three of the Big Five – Emotional Stability (reverse-scored Neuroticism) and Extraversion, as found by Langelaan et al. (2006), and (in view of its motivated nature and findings by Kim et al., 2009) with Conscientiousness.

Method

Those predictions were tested through three studies on an international website offering free advice to individuals about assessment processes for staff recruitment and development. Respondents (*N*'s = 393, 129 and 219) were from several countries, with largest numbers from Australia, India, the United Kingdom and the United States. In order to confirm a common meaning for questionnaire items and responses, analyses were restricted to responses from employed individuals who indicated that English was their first language. In Studies 1, 2 and 3 respectively mean ages were 34, 37 and 36 years, and 49%, 45% and 50% were female. Most (68%, 74% and 72%) had received a college or university education. Principal business areas were education, financial services, manufacturing and the public sector.

Consistent with the definitional consensus identified by Bakker et al. (2011) (see above), a six-item scale of job engagement examined subjective engagement by combining job-related energy and absorption. Illustrative items are "I feel energized when working" and "I get absorbed in my job", and responses were in terms of the past two months on a nine-point scale from *never* to *always*. A single overall issue was present, and *alpha* coefficients of internal reliability were .91, .85 and .90 respectively for the three samples. The scale has clear content validity and conceptual similarity to other engagement instruments, and optimistic construct and criterion validities have been reported by Ungemah (2010) and Warrand Inceoglu (2011) in respect of job satisfaction, work motivation and self-rated performance.

After completion of the engagement items, participants were offered the option to complete an established personality inventory for which individual response would be provided. From the full set of respondents in individual study, the samples described above chose also to complete the inventory. This was the normative version of the SHL Occupational Personality Questionnaire (OPQ32n), which describes 32 aspects of an individual's preferred style of thinking, feeling and behaving at work. Responses are on a five-point scale of disagreement or agreement with 230 self-descriptive statements. The inventory's theoretical background, technical details, and high reliability and validity have been described by SHL (2006, available online). Average alpha coefficients were.83, .84 and .82 in Studies 1 to 3 respectively.

The OPQ provides scores on individual of its studied traits, and in addition sub-sets of scales permit assessment of the conventional Big Five issues of personality. Based on the conceptual content of items within individual scale and on analyses of interrelationships within several large data-sets, the inventory designers have previously defined the Big Five issues (see SHL, 2006). (These were perfectly replicated in the present data.) In addition, the two principal sub-issues of Extraversion and of Conscientiousness (see above) were here analyzed separately. The composition of individualissue and sub-issue is illustrated by the scale titles in Table 2.

Results

Bivariate correlations of job engagement with issues and sub-issues of the Big Five are shown in the left-hand columns of Table 1, followed by average values weighted by the number of cases in individual study. Initial values in individual column control for age, gender and education level, and in brackets are correlations without those controls. (The control variables were correlated with engagement .09, .01 and .05 respectively in the combined sample.) It can be seen from the upper section of the table that the forecast primary associations yielded consequence sizes defined as "medium" in the framework proposed by Cohen (1992). Mean sample-size weighted controlled correlations of job engagement with Emotional Stability, Extraversion and Conscientiousness were .38, .33, and .40, compared to much reduced links with the other two issues (averaging .19). In addition, the Achievement Orientation component of Conscientiousness was more strongly linked to engagement (mean controlled r = .41) than was the sub-issue of Dependability (mean r = .30); and within Extraversion the facet of Social Potency was more important than was Affiliation (mean sample-size weighted controlled r's of .36 and .27).

Patterns for the constituent scales of individual issue are shown in Table 2. For instance, OPQ Optimism (mean controlled r = .35) is the primary trait within Emotional Stability's overall link to job engagement; and, although traits within the issue of Openness to Experience were generally unrelated to engagement, OPQ Innovative (e.g., finding it easy to generate new ideas) was considerably more predictive than others. Also unrelated to job engagement were the seven OPQ scales omitted from these analyses as being outside the Big Five framework (mean controlled r = .15).

Personality traits are of course often inter correlated, so that r-values in Table 1 are not independent of individual other. In order to identify the unique contribution of individual issue or sub-issue, multivariate examination is required. A large-sample multiple regression analysis was made possible by combining the three studies' OPQ and job-engagement data (N = 741). Findings are shown on the right-hand side of Table 1, with and without the demographic controls. The latter were found to increase the variance accounted for by a small amount, with a significant optimistic contribution from age in both analyses.

For the Big Five issues, it can be seen that Emotional Stability and Conscientiousness emerged as the only two unique predictors of job engagement. In that multivariate analysis, the other three issues contributed nothing to job engagement, despite some moderate bivariate associations. The seven-issue regression, incorporating sub-issues within Extraversion and Conscientiousness, indicates that (in conjunction to Emotional Stability) the only significant independent issues were Social Potency within Extraversion (p< .001 and p< .01 without and with controls) and the Achievement Orientation facet of Conscientiousness (p< .001 in both cases).

Discussion

These findings confirm that shorter-term job engagement is indeed a significant function of longer-term attributes of personality, and point to particular personality issues and traits that are either more important or less important in that respect. Of the Big Five issues, Emotional Stability and Conscientiousness independently accounted for most of the variance in job engagement. In addition, it was the more activated sub-issues within Extraversion and Conscientiousness that were important. Employees who are engaged in their jobs tended in dispositional terms to be emotionally stable, socially proactive, and achievement oriented.

This pattern, demonstrated in several hundred employees, has important implications for both research and organizational practice. It is known from other studies (e.g., Rich et al., 2010; Shirom, 2010) that job engagement is significantly associated with certain job and organizational features, so that theoretical models of employees' well-being and performance certainly essential to embrace environmental features. But those models will be incomplete and potentially misleading if they exclude individuals' dispositional features as identified here.

Given that job engagement is associated with identifiable personality features as well as with certain job features', it is important to consider their possible mode of combination. In respect of other forms of well-being, research has pointed to (but rarely

examined in detail) the combined impact of both environmental and personality features (e.g., Warr, 2011). However, almost no research has addressed their joint operation in relation to job engagement, instead examining only one of the two sets of variable. Four questions now deserve particular attention.

First, are certain personality traits independently associated with job engagement over and above job features? Kim et al. (2009) found that some of the Big Five traits made significant independent contributions to engagement in addition to certain environmental features (job position, skill variety and customer aggression), but that the measured job issues were primary. Xanthopoulou, Bakker, Demerouti, and Schaufeli (2009b) reported the same pattern in analyses which measured job features through a combination of autonomy, social support, coaching, response and development opportunities, and personal features in terms of combined optimism, self-efficacy and organization-based self-esteem.

It is conceptually and methodologically difficult to specify in general terms the relative contribution of any two kinds of issue, since results depend on the features of variables included in individual set. For example, comparing many influential features of one kind against fewer or less influential features of the other kind would necessarily yield an Imbalanced outcome. In order to individual a general conclusion about the relative weight of job and personality variables in respect of engagement, it will be necessary to conduct a number of studies with different combinations of elements.

Second, might job and personality variables *interact* with individual other, such that personality traits moderate the association between particular job features and employee engagement? For example, is the opportunity for personal discretion in a job more strongly correlated with engagement for individuals high in conscientiousness versus those who are less conscientiousness? This second issue presents empirical difficulties, since it is analytically essential to locate adequately wide between-respondent variance and to equate that variance in the two types of variable. However, in order to enhance models of employee engagement possible moderation essentials to be examined.

A third important issue concerns research into what is often referred to as "personality-environment fit" (e.g., Ostroff& Judge, 2007). Many studies have examined the statistical impact of discrepancies between the actual level of a job feature and a employee's preferred level, finding that a greater discrepancy between wanted and actual levels is associated with lower job satisfaction. However, in respect of more energized well-being in the form of job engagement it appears that greater want-actual discrepancy is instead linked to higher rather than lower scores, as engaged individuals value raised levels of many job features (Warr&Inceoglu, 2011). We now essential to learn whether this person-job pattern in relation to engagement occurs over and above the impact of personality. For instance, it may be that a optimistic want-actual discrepancy reflects greater achievement-oriented conscientiousness, so that measured poor-fit consequences in respect of job engagement in fact arise from dispositional traits.

A fourth personality-and-job issue in essential of examination concerns change across time. Job redesign modifications that increase the level of key features are likely to enhance employees' engagement, although experimental research to examine that

possibility is so far lacking. However, consequences of that kind could be significantly constrained by personality consequences. In respect of other forms of well-being it is known that, although environmental changes can modify well-being, individuals are likely to return to or towards their personality-linked baseline (e.g., Warr, 2007, Chapter 9), and such an adaptation process can be envisaged in respect of job engagement.

In practical terms, the paper has accentuated that engagement within an organization or work-group is in part a function of the features of employees selected for membership. Thus, in addition to possible enhancement of engagement from improved job design, typical engagement levels can be increased through personnel selection procedures that emphasis on the identification of emotional stability and activated forms of extraversion and conscientiousness. In addition, information about those traits can be valuable in the development of job engagement through person-emphasized task assignments and the setting of targets that build on specific individuals' own strengths and energies.

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Table 1.*Job Engagement as a Function of Personality Issues and Sub-Issues: Correlationsand Regression-Analysis Beta Coefficients Controlling for Age, Gender and Education Level (Uncontrolled Values in Brackets)*

					***Beta* weights, combined**	
	Correlations (*r*)				sample (*N* = 741)	
Personality issue or sub-Issue	Study 1 (*N* = 393)	Study 2 (*N* = 129)	Study 3 (*N* = 219)	Sample-size weighted mean	Five-issue regression	Seven-issue regression
Emotional stability	**.33 (.31)**	**.56 (.58)**	**.37 (.35)**	.38 (.37)	**.17 (.16)**	**.17 (.15)**
Extraversion	**.31 (.30)**	**.47 (.47)**	**.31 (.31)**	.33 (.33)	.08 (.08)	
Openness to experience	**.20 (.21)**	**.34 (.34)**	.17 (.18)	.22 (.22)	.05 (.08)	.01 (.05)
Agreeableness	.15 (.16)	.15 (.17)	.18 (.19)	.16 (.17)	.07 (.09)	.09 (.12)
Conscientiousness	**.41 (.38)**	**.43 (.44)**	**.38 (.35)**	.40 (.38)	**.28 (.26)**	
Extraversion facets						
Affiliation	**.25 (.24)**	**.42 (.41)**	**.23** (.22)	.27 (.26)		-.02 (-.03)
Social potency	**.33 (.32)**	**.43 (.44)**	**.38 (.37)**	.36 (.36)		.12 **(.13)**
Conscientiousness facets						
Achievement orientation	**.42 (.40)**	**.51 (.48)**	**.39 (.35)**	.41 (.40)		**.25 (.23)**
Dependability	**.32 (.30)**	.28 **(.31)**	**.30 (.29)**	.30 (.30)		.06 (.05)
Regression R-squared					**.24 (.23)**	**.26 (.24)**

Note: Values $p < .001$ are in bold font.

Table 2.*Correlations between Job Engagement and Personality Traits Controlling for Age,Gender and Education Level (Uncontrolled Values in Brackets)* Note: Values p < .001 are in bold font. (R) indicates reversed scoring in issue computation

	Study 1		Study 2		Study 3		Sample-size weighted mean	
	(*N* = 393)		(*N* =129)		(*N* = 219)			
Emotional stability								
OPQ Relaxed	.13	(.11)	**.43**	**(.46)**	**.31**	**(.29)**	.24	(.22)
OPQ Worrying (R)	**-.26**	**(-.24)**	**-.42**	**(-.46)**	**-.25**	(-.23)	-.28	(-.27)
OPQ Tough minded	**.27**	**(.23)**	**.32**	**(.33)**	**.28**	**(.24)**	.28	(.25)
OPQ Optimistic	**.31**	**(.30)**	**.49**	**(.51)**	**.34**	**(.34)**	.35	(.35)
OPQ Socially confident	**.26**	**(.26)**	**.41**	**(.44)**	.22	(.23)	.27	(.28)
Extraversion: Affiliation								
OPQ Outgoing	**.19**	**(.18)**	**.42**	**(.40)**	.21	(.20)	.24	(.22)
OPQ Affiliative	**.22**	**(.21)**	.30	(.29)	.16	(.15)	.22	(.21)
OPQ Socially confident	**.26**	**(.26)**	**.41**	**(.44)**	.22	(.23)	.28	(.28)
OPQ Emotionally controlled (R)	-.05	(-.05)	-.18	(-.11)	-.10	(-.11)	-.09	(-.08)
Extraversion: Social potency								
OPQ Persuasive	**.30**	**(.29)**	**.37**	**(.38)**	**.28**	**(.26)**	.31	(.30)
OPQ Controlling	**.27**	**(.25)**	**.34**	**(.37)**	**.38**	**(.38)**	.31	(.31)
Openness to experience								
OPQ Conventional (R)	-.13	(-.14)	-.28	(-.27)	-.05	(-.06)	-.13	(-.14)
OPQ Conceptual	.07	(.07)	.25	(.27)	.03	(.03)	.09	(.09)
OPQ Innovative	**.23**	**(.22)**	**.31**	**(.33)**	**.24**	**(.24)**	.25	(.25)
OPQ Variety seeking	.13	(.14)	.17	(.16)	.11	(.12)	.13	(.14)
OPQ Behavioural	.15	(.15)	.19	(.15)	.16	(.16)	.16	(.15)
Agreeableness								
OPQ Caring	**.19**	**(.20)**	**.42**	**(.41)**	.23	(.23)	.24	(.24)
OPQ Trusting	.16	**(.17)**	.24	(.29)	**.28**	**(.29)**	.21	(.23)
OPQ Competitive (R)	.04	(.03)	.14	(.18)	.16	(.13)	.09	(.09)
OPQ Democratic	**.20**	**(.19)**	.13	(.13)	.21	(.20)	.19	(.18)
OPQ Independent minded (R)	.05	(.06)	.23	(.18)	-.03	(-.02)	.06	(.06)
Conscientiousness: Achievement orientation								
OPQ Vigorous	**.39**	**(.39)**	**.43**	**(.41)**	**.32**	**(.31)**	.38	(.37)
OPQ Achieving	**.35**	**(.31)**	**.44**	**(.41)**	**.35**	**(.30)**	.37	(.33)
Conscientiousness: Dependability								
OPQ Conscientious	**.32**	**(.30)**	.25	(.26)	**.30**	**(.28)**	.30	(.29)
OPQ Forward thinking	**.25**	**(.24)**	.29	**(.33)**	.21	(.20)	.25	(.24)
OPQ Detail conscious	**.21**	**(.20)**	.16	(.19)	.21	(.21)	.20	(.20)

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ONTOLOGY-BASED NEURAL NETWORK FOR PATIENT KNOWLEDGE MANAGEMENT IN DESIGN COLLABORATION

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Abstract
Recently, ontology has be- come the choice for representing and publishing biological knowledge. Ontology generation is the process of building ontology for domains of interest by identifying the related concepts and the relations be- tween those concepts in those domains using (semi-) automated approaches. Apart from building the smart healthcare applications, ontologies and their knowledge-bases are fundamental cornerstones in the realization of semantic web vision. Graph method, and semantic enrichment to ex- tract relations were used in previously done works. Furthermore, the domain inference engine of the framework has the capability to generate well-defined ontology model. Constructing an ontology manually is complex and time consuming task, there is a need to enhance the Non-taxonomic relation of the system. The existing method is not a user-friendly design and doesn't support structured data. Hence, a user-friendly,simple ontology network is designed using structured data to enhance the taxonomic relation of the system. Machine learning concept like Two Mean Cluster Tree (TMCT) are integrated for better accuracy.DIOC – Disease Independent Ontology Constructalgorithm is employed to calculate the average of all the points in a cluster and to move the centroid to that average location. As a result, data visualization is simplified.
Key Words: Ontology, cluster, taxonomic, accuracy, disease

1. Introduction

The extraction of information form the unstructured data which is in the disease-drug interaction and it has been growing ultimately. It has the huge potential of technology perception and commercial innovation of the same. The extraction of data from the unstructured source is achieved by many different ways such as machine learning, web, document analysis, information retrieval and data base. Data extraction was done early with the named entities and the relationship among them from natural language text. The data extraction is carried out in the health care, biomedical applications by using the ontology knowledge based techniques and it helps the machines to diagnose both implicit and explicit entities. The high accurate data prediction is achieved by machine learning algorithms which gets the extracted data as an input. This can be described from ontologies.

The ontologies are built by which the domain knowledge extracted from unstructured dataitself. It should be understandable for the machine with the implementation of novel data model to organize the valuable information of the disease-drug data. Ontology is formal tool for pertaining the knowledge of the particular domain or as defined by Gruber "explicit specification of a conceptualization".The recent development of biological knowledge representing and publishing is achieved by ontology.The ontology buildings are built by related concept of healthcare application is developed initially and then it will compare with the origin domain. The ontologies are built manually by the ontology engineer but this is the more time consuming process and it is applicable only for small

scale. So for large scale and more sensitive industries like healthcare or biomedical is required to develop automated ontology generation.

With the increasing development in biomedical application, it is very difficult and more challengeable to extract correct data from the source of the records. The data is in the form of entities without having name or any other information in healthcare sectors. The implicit entities are mentioned with the introduction of implicit entity recognition in clinical documents. The ontology construction of the unstructured data is not enhancing the non-taxonomic relationship of the extracted systems. The systematic classification of the required data is not enough in unstructured method of constructing process of ontology. The constructed system has more difficult to identify the needs and it has not been in user-friendly.

In this proposed work, the ontology has designed based on the biomedical domain of disease-drug. The main objective of this work is considering the structured content of the information. Here use the DBpedia to extract the structured content from the information of the database which is in the biomedical application. The ontology has also designed by the source from the DBpedia.While constructing ontology, the detailed structured information about the disease-drug and the relationship is taken in the account. The diseases independent ontology is constructing and the relevant information for the required drug is predicting.

The high accurate solution is obtained by integrating this with the machine learning concepts of Two Mean Cluster Tree (TMCT). The algorithm is developed by java and the mapping structure is created with the aid of Portege. by using two means and decision tree for clustering: Two-moves the centroids to the average of the points in a cluster. In other words, the algorithm calculates the average of all the points in a cluster and moves the centroid to that average location. A tree is a decision support tool that uses a tree-like graph or model of decisions and their possible consequences, including chance event outcomes, resource costs, and utility.In this work can achieve simplification of the data visualization with the design of domain based ontology.

2. Literature review

Mazen Alobaidi, et al (2018), has developed the novel concept as Automated Ontology Generation Framework (AOGF) with the consideration of five modules, such as Text Processing usingcomputeondemandapproach, Medical SemanticAnnotation usingN-Gram,ontologylinkingandclassificationalgorithms, RelationExtraction using graph method and Syntactic Patterns, Semantic Enrichment using RDF mining, Domain Inference Engine to build the formal ontology. Author mainly focused on the biomedical electronic health record to minimize the manual work for creating the database. The disease – drug evaluation, quantitative result has shown that 84.48% recall, 53.35% precision and 67.70% F-measure. The developed framework was empowered by linked biomedical ontologies and it integrated the various techniques and it has produced the better solution for the problem of automated disease-drug ontology generation process.

Mohammed Alkahtani, et al (2018), in this work, the Decision Support System (DSS) based technique was developed with the ontology based text mining, reliability, mapping and cost optimization for identifying the manufacturing fault of the product and also the warranty data and cost also analysed to reduce the warranty cost of the product. The hidden knowledge of warranty database was extracted and analysed by ontology based text mining technique. The warranty databases are collected and it was compared with manufacturing data by Self Organising Maps (SOM). While mapping, the SOM analyse and identify the critical region in mapping which region has the major defects. The solution from this was

taken and to implement in to the design database and then the better reliability of the products can deliver with lower cost.

Natalia Viani, et al (2018), author extracted the information from Italian medical report and built the domain based specific ontology which has extracted the events and attributes with related regular expression. Usually in that hospital most of the information is writing manually and stored. So the author considered 5432 non-annotated reports of the patient and evaluation based set of tests were conducted. The final analysis result has shown the above 90% of correct annotation in the clinical events. The domain based ontology has extracted the link information from the clinical text and it has translated the information perfect manner.

Carmen Benavides, et al, (2018), in this work study about ontology design in Computer Aided Control System Design (CACSD) tool with the creation of knowledge model. The formal conceptual ontology structure was constructed independently of any applications. The design of lead/ lag controller domain was considered to construct the ontology and application with root locus method. The relationship of the interaction between the user and the CACSD application was compared by this constructed ontology. The separate model was developed for knowledge and data from the result.

Yiqun Chen, et al (2018), authors are focused on the heterogeneity data analysis in urban areas by developing the ontology. They get the dataset from various providers or custodians for the same domain but that was varying with different factors such as legacies, definition or standards. So they introduced new two mapping mechanisms in domain knowledge to domain ontology to eliminating the heterogeneity of the urban data sets. They also introduced semantic translation engine to automate the process of data harmonization. First mapping is based on 'data concept' mechanism, which the layers are designed based on particular theme and it was stored in relational database structure. The second mapping mechanism is 'attribute-property', which the data layer contain the names of the attribute and their properties. The data filter and data layer techniques were used to achieve the more flexible mapping of the system. In data filter the sub data of the certain concepts were mapped and multiple concepts of the data sets are mapped with the data layers. The result has shown that the steps of harmonization for urban data analysts and researchers were become flexible to obtain the knowledge which is needed by the development of ontology.

Farman Ali, et al (2017), were developed a new technique as Support Vector Machine (SVM) and Fuzzy ontology to classify the adult and medical URLs from common URLs to prevent the children to access the pornographic web pages. The unwanted web content was systematically filtered the semantic knowledge by this ontology technique.

Rana Alaa El-Deen, et al (2018), authors have focused on the filtration and easy access in shopping website by the users. The data and requirement of the content in sites were sometimes collapsed and tends to mislead the customers. To prevent these problems the semantic web technology and data mining process is used. The algorithms are developed to filter the needs and shows exact result.

Amy J. C. Trappey, et al (2012), the new product development is an innovative process in the competitive world and these concepts are to be get the intellectual property rights by corresponding researchers. While getting this right, the accurate knowledge of the particular concept was identified by patent engineer. The knowledge of all the systems were developed by ANN based ontology to flexible the process of an engineer.

M.Gayathri, et al (2018), in traditional medicine, the user or the practitioner was facing difficulties to finding the appropriate and useful data for particular requirements. They

introduced a new technique as text mining to get and understand the proper knowledge of herbal plants and their usage of curing disease. The data was collected from the Traditional Knowledge Digital Library and National Centre of Bio Informatics. The domain plant ontology was developed and segregated the collected data and then the results were compared with existing search engines like Google, yahoo, etc…

Ahlem Rhayem, et al (2017), the quantities of monitoring system in healthcare sectors became very huge and resource- constrained devices are connected with more number of elements such as sensors, actuators, etc… The semantic representation and data of the objects are very difficult to identify and it will be overcome by introducing the HealthIOT ontology. This ontology will provide adequate information about data and also give the practical backup of this. The Internet of Medical Things ontology was created on the base of domain knowledge approach.

Awny Sayed, et al (2017), the search engine was developed by ontology to extract the correct information or translation of the languages. Here the ontology based IBRI-CASONTO search engine was developed to obtain the domain knowledge of language both English and Arabic with the inputs of keywords and semantics. To obtain the better result, Resource Description Framework (RDF) data and Ontological Graph (OG) techniques were used.

Aurona Gerber, et al (2017), the taxonomy is a broad area in biological studies and it contains lots of data and the identification and classification of these data is very difficult. So the ontology was developed to classify the organism names and identification first and then the revision and categorization. The domain knowledge of the system has taken from description logics and it manipulates the knowledge.

Pamela Viale, et al (2016), has created a novel approach of ontology to create new endocrine model with the reference of existing chemical engineering ontology model (OntoCape). This model provides all the necessary knowledge about the endocrine system and it named as Bio OntoCape. This was connected with MATLAB and the simulation has made and predicts the external stimuli. This was done by three different ranges such as healthy, prediabetic and diabetic and it is being like a guide or reference of different practitioners from different disciplines.

Silvio Domingos Cardoso, et al (2018), the datas in the biomedical field was repeatedly using same domain knowledge. The evaluation ontology has been playing a vital role in biomedical field to identify the out-dated data automatically. The proposed technique model as the periodical revision has to be made and also clearly mentioned the kind of revision in the ontology model. The clear idea about the structural, relational and temporal informations are described or mentioned in ontology itself. The ontology revision was done in already existing biomedical ontologies such as ICD-9-CM, MeSH, NCIt and SNOMED CT. The proposed model shows the average result of 71% when compared to other model.

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3. Proposed methodology

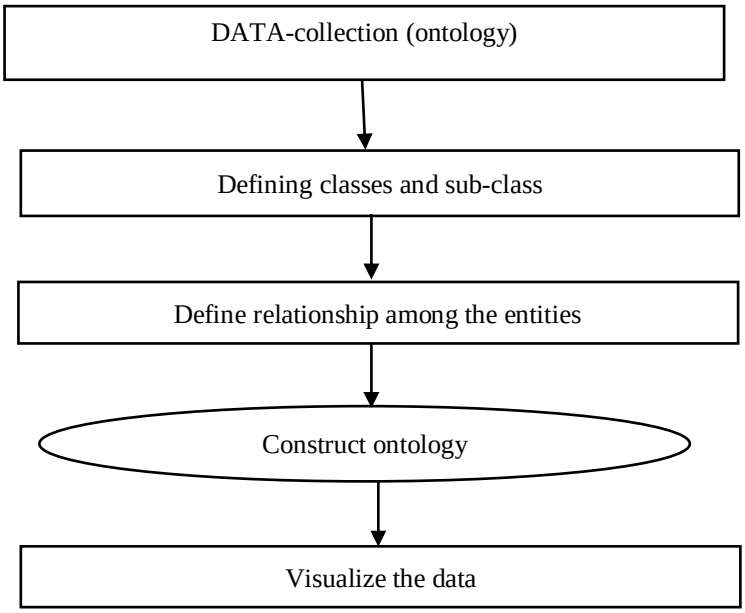

Fig.1 Flow chart of proposed system

The above figure.1 shows the overall work flow of the proposed method. In this method the structured data of the various diseases collected from the source. The required information of the disease is collected from the Virtuoso Spark server. The query of the information has created and it has entered in that server. The enormous numbers of data sources are there in that server and the query which has given to that server is processed and the sources are brought out from the DBpeida. The Virtuoso Spark servers linked with the DBpedia and it processing quickly and gather the all required information. The data which is in DBpedia is the base source of constructing the ontology. The data sources are having different entities and each of them relate with other, the relationship among each entities to be defined for constructing the ontology.

In this proposed method novel framework has introduced to collect and process the data, live medical annotation, the relationship of the entities and visualize the data from the constructed ontology.

3.1 Pre-processing

The pre-process is an important considerable factor for this work because the raw data is collected from the source as DBpedia. Natural Language Processing was involved to do the pre-processing works such as tokenization, sentence detection, Parts of Speech (POS) tagging and stop words removal. Here the collected data is a text form and that text is to convert token from the artifacts for the purpose easy identification with the detection of the entire sentence. The commonly using words are in the sentence to be removed and then the appropriate parts of speech to be added in that text.

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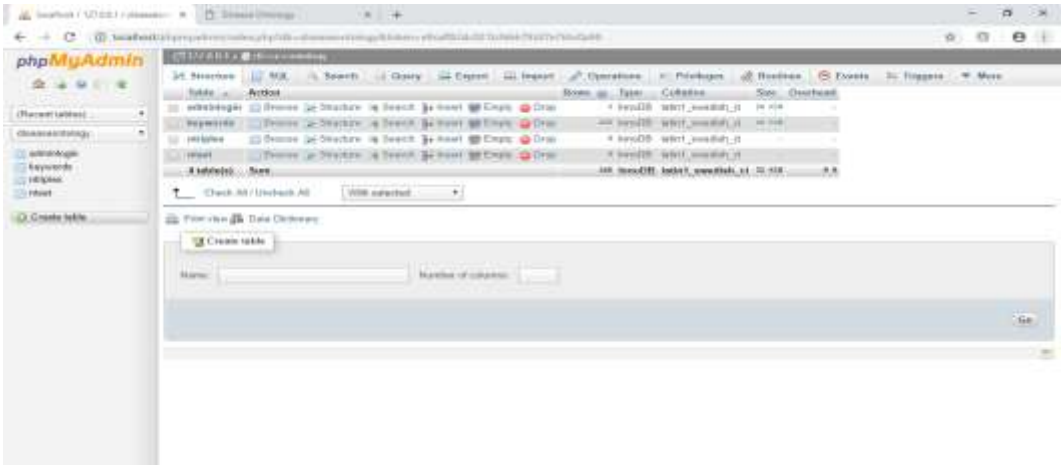

Fig.2 Database for constructing Ontology

3.2 Medical annotation

The medical annotation is the important block of the proposed framework. The collected disease-drug data is classified with major elements and the boundary conditions of entities and their relationship is identified to form the ontology. The disease and drug categories are related with one another, the n-gram represent the number of sources in the data. The data which is in source always in grouping like an example of drugs with various combination of chemical and their application, similarly the disease also in group which drug is related with some particular disease. Those parameters have to be considered and identified with maximum and minimum grams of the source with the usage of n-grams.

The query related to the search has entered in Virtuoso Sparql server and it labelled the required source. It check whether the lable is meeting with the need or not if it is then the process will move and link with the DBpedia. From that the data will classify with class and number of subclasses. The exact meaning or relation of each data is gathered with the process of mapping. The semantic type of data will identified with Type Unique Identifier (TUI) and it gives the unique id of each required data and from this id the corresponding disease- drug will be mapping. Here the algorithm is used to identify or classify the semantic enrichment and relation extraction.

The linked bio medical ontology approach is used to discover the entire medical notation like disease and drugs. The semantic enrichment is used to get the synonyms, definition, category and ontology is extracted with divided sub-components and it is easy to identify the data which is in need.

3.3 Ontology construction

The ontology was constructed based on the collected data by introducing novel algorithm. The algorithm has extracted required information from the source and entire sources are linked with each other. Some of the data has not match with other, it can be easily identified by the ontology. There are three factors, such as subject, prediction and object to be considered while constructing ontology. The ontology has the all three elements and it shows the relationship of each other. The taxonomic of the entire data source will be extracted by novel hybrid approach algorithm.

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3.3.1 Algorithm: DIOC – Disease Independent Ontology Construct

Step 1:*Load the disease dataset.*
Step 2: Initialize the NTriples Data
NTriples ← new LinkedList<String>();
Step 2:*Initialize the NTSet Data*
NTSet ← new LinkedList<String>();
Step 3:*Initialize the Predicates data*
predicates ← new TreeSet<String>();
Step 4:*Load Virtuoso Server* https://dbpedia.org/sparql live dataset
u ← new URL("https://dbpedia.org/sparql");
Step 5:*Open Connection Stream.*
is ← u.openStream(); // throws an IOException
Step 6:*Read live data line by line.*
dis ← new DataInputStream(new BufferedInputStream(is));
Step 7:*Categories Subject, Predicate, Object list.*
NTSet.add(subject+">~"+predicate+"~"+object);
Step 8:*Sort the NTriples data.*
Collections.sort(NTriples);
Step 9:*Initialize nodes.*
nodes ← "";
nodes+ ← "{id: "+1+", label: '"+ diseasename +"', shape: 'circle'},";
Step 10:*Initialize edges.*
edges ← "";
nodes+ ← "{id: "+(i+1)+", label: '"+ps+"', shape: 'circle'},";
edges+ ← "{from: "+i1+", to: "+(i+1)+", style: 'line', width: 1, length: 200, label:'"+ps+"'},";
nodes ← nodes.substring(0,nodes.length()-1);
edges ← edges.substring(0,edges.length()-1);
Step 11:*Construct Ontology*
Constructontology ← (nodes, edges, NTSet, NTriples).
Step 12:*Ontology Construction Completed.*

4. Results & Discussion

After an individual logs into the ontology page by entering his user name and pass word, then required disease name is chosen. The tool bar shows various disease names as shown in figure 3. The keyword of the disease is entered in that page and it shows the constructed ontology of the system as given in figure 3.

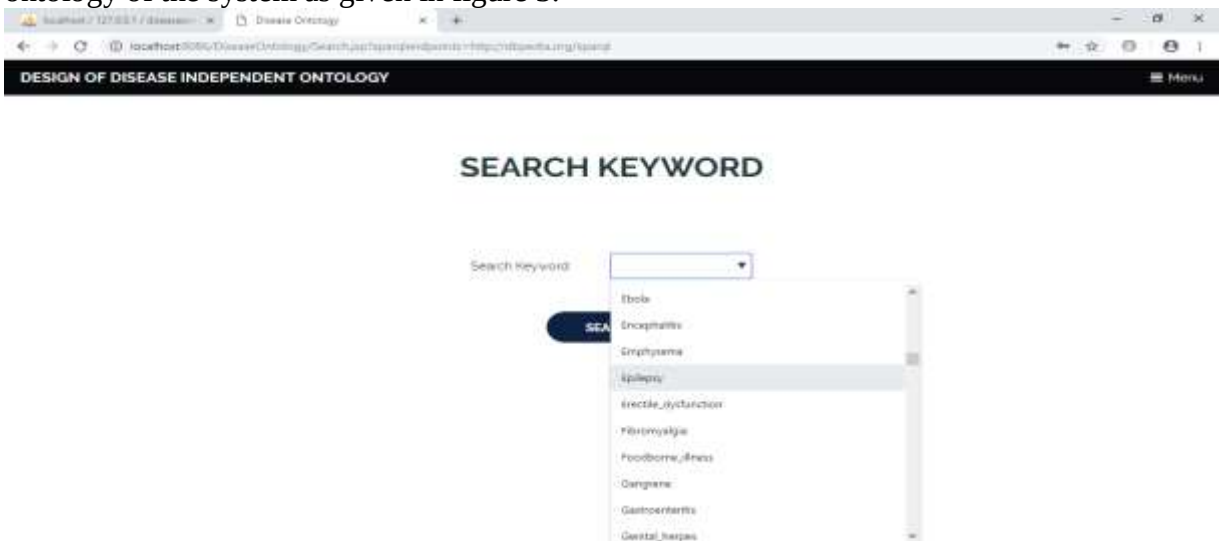

Figure 3.Selecting keyword of diseases

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In figure 4, the ontology structure of the disease-drug application is shown. Once the particular disease is selected, entire information of that and their relationship are also displayed. In the above figure, for example epilepsy is selected, and hence it shows the entire information and relation of the epilepsy disease.

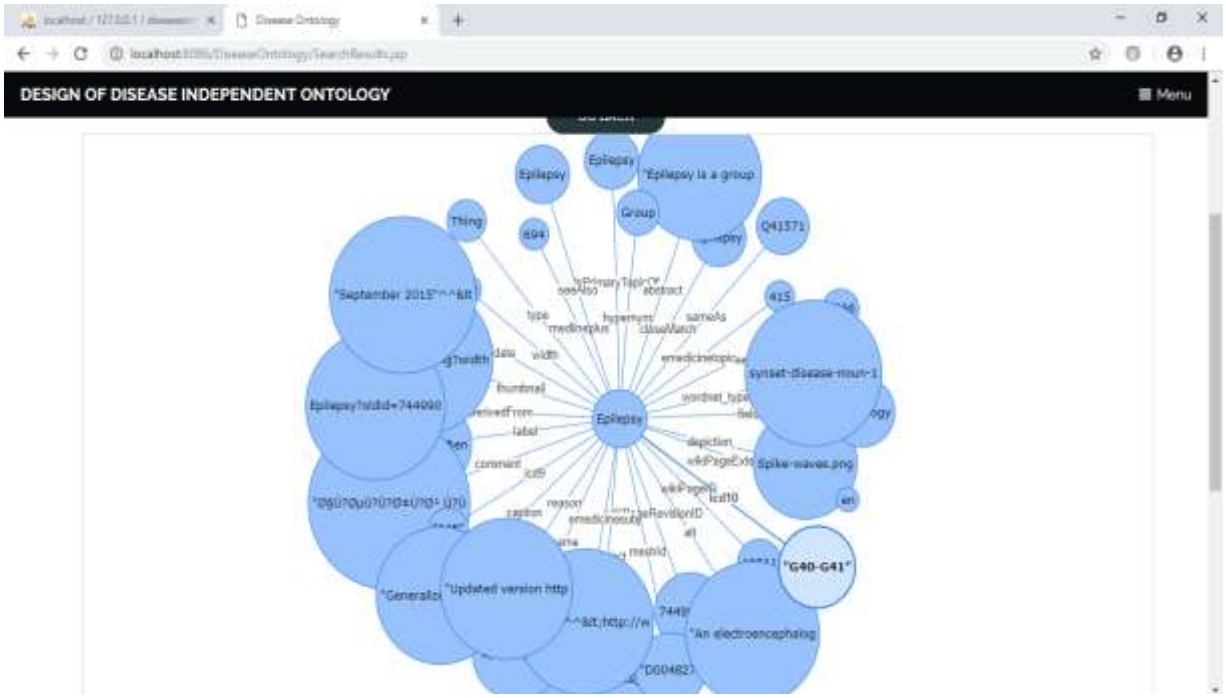

Figure 4. Constructed Ontology of the system

Figure 5 shows the created ontology with the content of relationship between subject, concept and predicate. The detailed explanation of the subject is mentioned below in the ontology structure and similarly all the detail about concept and predicate are also explained clearly. From this, the predicate of the chosen subject can be easily obtained.

Figure 5.Objects of a particular disease

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4.1 Visualization

The constructed ontology contains related information about entire disease and drugs which has been considered in this work. The ontology shows only the entities but the relationship of each and every data is visualized by protégé tool. The independent ontology has been exported and stored in some memory of the system. The required ontology file will can be opened in the protégé tool.

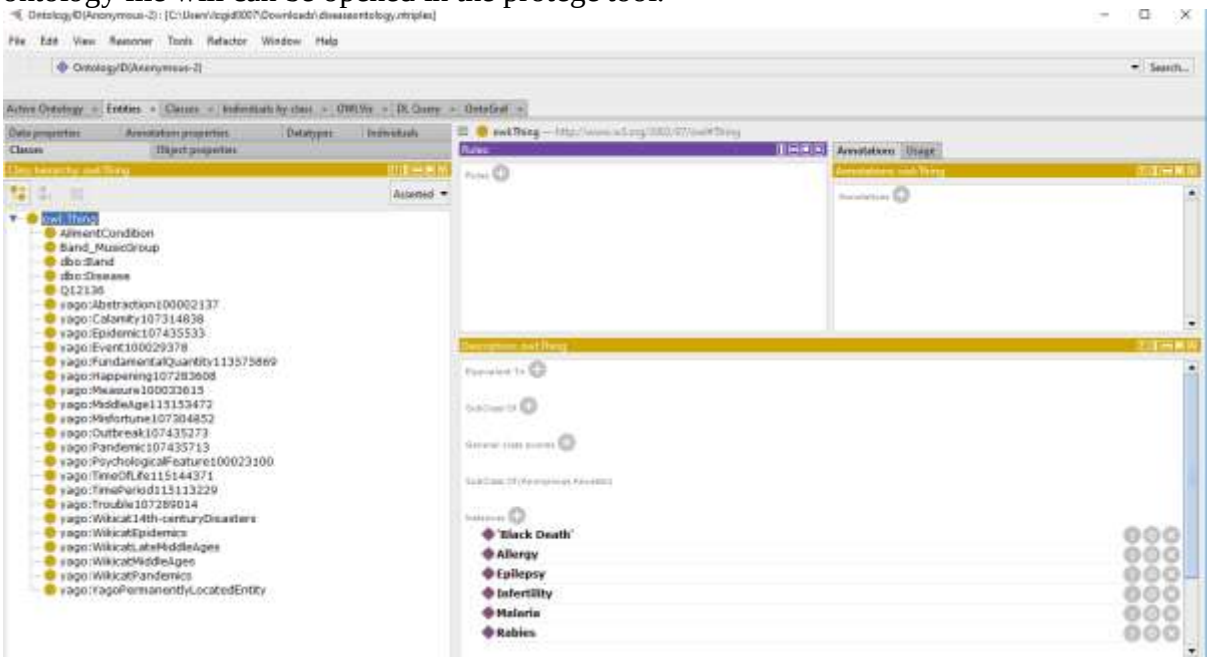

Figure 6. Ontology Description

In figure 6, if ailment condition is selected, then its entire description is displaced. The displaying parameters include its equivalency, subclass, general class axiom, instances. All these parameters for every set can be displayed.

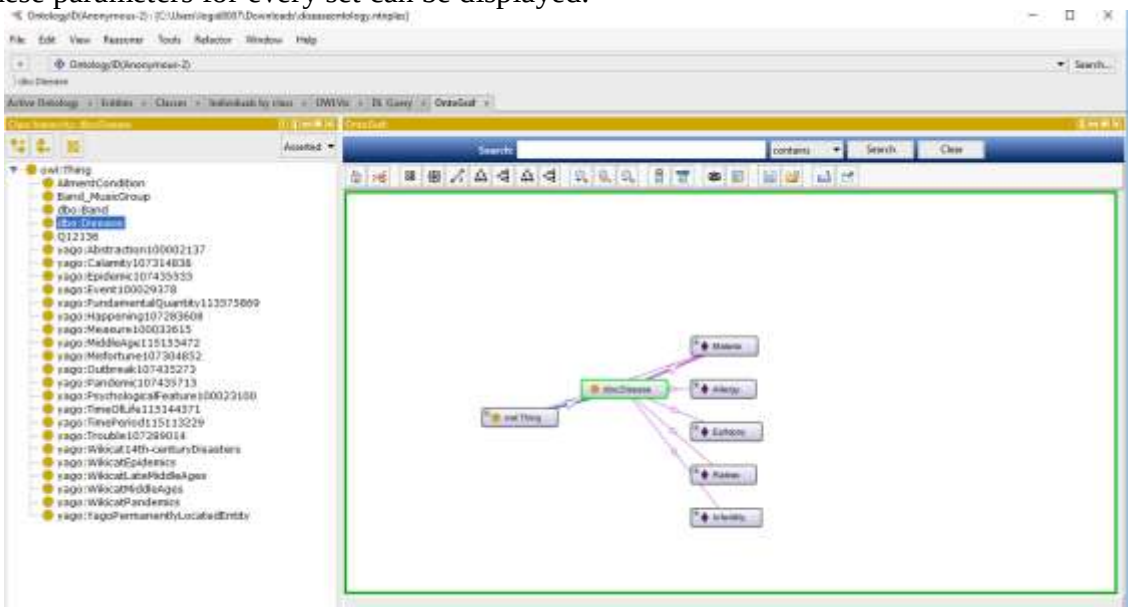

Figure 7.Ontology network

5. Conclusion

A simple and user-friendlyontology network is designed using structured data to enhance the taxonomic relation of the system. Machine learning concept like Two Mean Cluster Tree (TMCT) are integrated for better accuracy. DIOC – Disease Independent Ontology

Construct algorithm is employed to calculate the average of all the points in a cluster and to move the centroid to that average location. As a result, data visualization is simplified.Ontologies provide a restriction-free framework to represent a machine readable reality, even in the Web. This framework assumes an open world in which information can be explicitly defined, shared, reused or distributed.

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"ANALYTICAL STUDY OF INVESTORS APPROACH AND PREFERNCES TOWARDS DERIVATIVES AS AN INVESTMENT AVENUE IN WESTERN SUBURBS OF MUMBAI WITH SPECIAL REFERNECE TO BOMBAY STOCK EXCHANGE"

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Abstract
In India, generally all capital market investment avenues are perceived to be risky by the investors. But the younger generation where the investors which are actually willing to invest in the capital market instruments and that are too very highly in the Derivatives segment. Even though the knowledge made to the investors in the Derivative segment which is not adequate, they also tend to take decisions with the help made of the brokers or which is carried through their set of friends and they were actually trying to invest in this market.

With the integration made of the financial markets and even the free mobility of the capital, risks also multiplied. In the present state of the economy, there is an urgent need for the investors to protect their interests by shifting some of the uncontrollable financial risks to those who are also to bear and manage them. Thus, risk management becomes a must for survival since there is a high volatility in the present financial markets.

The market regulator Securities and Exchange Board of India (SEBI), has been taking active steps to increase liquidity in the available contracts to make the market which is more robust and the viable for all kinds made of investors. Now derivatives market performs number of monetary function. Derivative contract have several variants the most common are forwards, futures, options and swaps.

Keyword: Capital Market, Derivatives Segment, Financial Markets, Economy.

Introduction
The most significant and reliable event in finance is termed which is caused during the past decade and has been the cause of actual development and its expansion of the financial derivatives. These se of instruments also enhance the ability driven actually to differentiate the risk and also to allocate it to those set of investors who are most able and are willing to take it even. Derivative is also termed as a product whose actual set of value is derived from the value of more than one or more basic variables, which are called as bases (underlying the asset, index, or even the reference rate), in a contractual manner. This is termed as an underlying asset which can also be called as equity, forex, commodity or even any other asset. The actual price of these derivative is also driven by the actual spot price of the underlying.

Financial derivatives actually came into spotlight in the post-1970 period which was caused due to growing instability in the financial markets. However, since their actual emergence of these products have also become very popular and is governed by 1990s, they also accounted for about two thirds of the total transactions in the derivative products. In recent years, even the market for the financial derivatives has also grown tremendously in actual terms of variety of instruments which are also available, their complexity and is also turn-over. Even the small investors find these useful due to the high correlation of the popular indexes with the various portfolios and ease of use.

Review of literature

The review of literature provides a path and direction for further research. It can lead to the drawing of some significant conclusions and highlights gaps existing in the area of research. In this chapter, an endeavor has actually been made to provide an overview of various aspects and issues related to the proposed research, through the review of studies already carried out.

According to Bandivadekar and Ghosh (2003) he studied the actual introduction made of the future on both the NSE and BSE. They also found that future market also plays a significant role in the actual reduction of the volatility made on S&P CNX Nifty, while the market also forces the play a keen role for the change in the volatility of the BSE Sensex. They also have explained that even when the derivative contracts are also easily available in the market, and speculators shift from cash segment to the derivatives segment which are resulting in the actual reduction made of trading the volume of cash market.

According to Bologna and Cavallo (2002) They also examined the actual effect made of the introduction incurred on stock index future for the Italian market. Their empirical result also show that there is introduction made on the stock index future which also affect the volatility made of the spot market. In addition, even the result has shown from various GARCH models for their pre-future and post-future sub-periods which also suggest that the index future market also reduces the volatility.

Research Methodology

It is a way made to systematically resolve the research problem. It may also be understood as a science which is made by the actual studying done on how research is done scientifically. In it we also study about the various steps that are being generally adopted by the researcher which is studying his research problem and is along with the logic behind them. To keep the research design in-line with the research objectives the researcher has taken due care, that the tools used in research are objective oriented.

Objectives of Study

Researcher has made the following specific objectives of the study.

1) To analyze out the investor's attitude and preferences towards various investment products in Western Mumbai.
2) To study how demographic factors (age, sex, economic status, educational qualification, income level, occupation) does influences investor's preference towards investment schemes and derivatives.
3) To Study the various investment avenues and the investors risk preference towards it.
   7) To study the ways through which the investors which also minimizes their risk.

Hypothesis

Researcher has framed the following hypotheses by considering the objectives of the study.
H01: "There is no significant association between demographic factors and investor's approach towards in different investments including derivatives"

Data analysis

To test the hypothesis "There is no significant association between demographic factors and investor's approach towards in different investments including derivatives" multiway ANOVA test is applied taking demographic variables as gender, age, education,

occupation and marital status as fixed factors and level of awareness for different investment options as dependent variables, where following results were obtained:

Tests of Between-Subjects Effects

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
Gender	Bank	.590	1	.590	23.971	.000
	Insurance Policies	.590	1	.590	19.465	.000
	Mutual Funds	.590	1	.590	21.072	.000
	Real Estate	.622	1	.622	12.295	.000
	Gold / Silver	1.667	1	1.667	69.314	.000
	Equity (share) Market	1.039	1	1.039	22.124	.000
	Derivative Market	1.493	1	1.493	68.153	.000
	Debentures / Bonds	0.000	1	0.000	0.000	1.000
	Provident Fund (PF)	.056	1	.056	1.727	.189
	Post office	.083	1	.083	2.310	.129
Age	Bank	16.236	3	5.412	219.897	.000
	Insurance Policies	1.989	3	.663	21.876	.000
	Mutual Funds	1.795	3	.598	21.372	.000
	Real Estate	16.615	3	5.538	109.538	.000
	Gold / Silver	3.642	3	1.214	50.497	.000
	Equity (share) Market	2.614	3	.871	18.549	.000
	Derivative Market	3.260	3	1.087	49.590	.000
	Debentures / Bonds	.147	3	.049	2.952	.032
	Provident Fund (PF)	10.473	3	3.491	107.940	.000
	Post office	10.797	3	3.599	100.200	.000
Education	Bank	1.539	3	.513	20.849	.000
	Insurance Policies	8.045	3	2.682	88.480	.000
	Mutual Funds	5.165	3	1.722	61.492	.000
	Real Estate	7.982	3	2.661	52.622	.000
	Gold / Silver	15.778	3	5.259	218.741	.000
	Equity (share) Market	12.952	3	4.317	91.899	.000
	Derivative Market	4.850	3	1.617	73.782	.000
	Debentures / Bonds	8.638	3	2.879	172.881	.000
	Provident Fund (PF)	2.737	3	.912	28.206	.000
	Post office	4.625	3	1.542	42.921	.000

Occupation	Bank	1.161	3	.387	15.728	.000
	Insurance Policies	.534	3	.178	5.873	.001
	Mutual Funds	4.561	3	1.520	54.300	.000
	Real Estate	1.415	3	.472	9.330	.000
	Gold / Silver	7.659	3	2.553	106.180	.000
	Equity (share) Market	1.370	3	.457	9.719	.000
	Derivative Market	1.997	3	.666	30.389	.000
	Debentures / Bonds	11.578	3	3.859	231.724	.000
	Provident Fund (PF)	7.253	3	2.418	74.761	.000
	Post office	3.005	3	1.002	27.887	.000
Marital status	Bank	0.000	2	0.000	0.000	1.000
	Insurance Policies	0.000	2	0.000	0.000	1.000
	Mutual Funds	0.000	2	0.000	0.000	1.000
	Real Estate	1.799	2	.899	17.790	.000
	Gold / Silver	.288	2	.144	5.986	.003
	Equity (share) Market	1.150	2	.575	12.244	.000
	Derivative Market	2.348	2	1.174	53.577	.000
	Debentures / Bonds	3.381	2	1.690	101.497	.000
	Provident Fund (PF)	6.696	2	3.348	103.520	.000
	Post office	15.992	2	7.996	222.621	.000

Gender: The above table shows that the significance value obtained from all the investment avenues (except debenture/bonds) is less the alpha value of 0.05 **(p < 0.05)** which states **that there is significant association between gender and awareness for different investment avenues**. This shows that the choice of investment differs between male and female. However in case of Debenture/Bond the choice of investment is exactly similar among male and female.

Age: The above table shows that the significance value obtained from all the investment avenues is less the alpha value of 0.05 **(p < 0.05)** which states **that there is significant association between age and awareness for different investment avenues**. This shows that the choice of investment differs among investors of different age group.

Education: The above table shows that the significance value obtained from all the investment avenues is less the alpha value of 0.05 **(p < 0.05)** which states **that there is significant association between Educational Qualification and awareness for different investment avenues**. This shows that the choice of investment differs among investors of different educational qualification.

Occupation: The above table shows that the significance value obtained from all the investment avenues is less the alpha value of 0.05 **(p < 0.05)** which states **that there is significant association between occupation and awareness for different investment**

avenues. This shows that the choice of investment differs among investors of different occupation status.

Marital Status: The above table shows that the significance value obtained from all the investment avenues (except Bank, Insurance and Mutual Fund) is less the alpha value of 0.05 **(p < 0.05)** which states **that there is significant association between marital status and awareness for different investment avenues**. This shows that the choice of investment differs among investors of different marital status. However, the choice is similar in case of Bank Investments, Insurance and Mutual Funds.

Hence, the hypothesis i.e. "*There is no significant association between demographic factors and investor's approach towards in different investments including derivatives*" is **rejected**.

Conclusion

Overall it is concluded that, even though derivatives trading is very risky in nature and amounts to speculation but it has gained lot of popularity due to various advantages associated with it. The ratio of positive feedback to negative feedback is more towards positive side and it can be said that respondents had a positive experience while trading in derivatives. A well organized financial system is essential for the smooth functioning of any economy. Further regulatory reform will help the markets grow faster.

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ROLE OF COATING & LAMINATION PROCESSES FOR DEVELOPING SMART TEXTILE APPLYING POLYMERS

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ABSTRACT

Coating and lamination are two functional processes which are used make a proper finishing to the textile material. The coating formulation with different textile grade polymer like PVC, PU, acrylic, PTFE are hugely used to make a textile product with multipurpose way like waterproof protective clothing, electrical insulation etc. on the other hand lamination process is used to prepare some important textile products with daily uses in our practical life. Coating and laminating are increasingly important techniques for adding value to technical textiles. Coating and lamination enhance and extend the range of functional performance properties of textiles and the use of these techniques is growing rapidly as the applications for technical textiles become more diverse. Cheaper fabric structures may be coated or laminated to provide higher added value to end-users and higher profit margins to manufacturers. The key to success in textile coating and lamination depends upon the application of appropriate technology using modern machinery. Machine productivity is important, but flexibility in terms of production speed and the versatility of coating/lamination methods are important factors to consider, as well as a high level of process monitoring, process control and automation to satisfy demanding technical specifications.

The machinery and method of application of the coating formulation must be versatile, minimize tensions on the fabric that may lead to distortion or stretch, and eliminate problems in knitted fabrics such as curling selvedges. Smart textiles refer to the emergence of electronic components with advanced fibres, polymers, yarns and fabrics. They sense the information about its wearer's body and inform the wearer of the conditions of the body or send the information to the outside world . The emergence of devices and miniaturized electronic apparatus has a great influence on modern people's life patterns. Smart textiles that are manufactured mainly for the purpose of protection are referred to as protective textiles such as to provide thermal comfort and antifreeze safety. Metallic wires are also used in heated fabrics and personal heating garments. Electrical wires have been used in electrically heated wearing apparel and in heating gloves. Heating textiles can also be used for household use, such as to heated floors, walls and roof, *etc.* The coating and lamination gives a powerful tool for the advancement of textile technology. It provides the opportunities to produce the special fabrics

Keywords: *textile coating, protective clothing, coating, lamination.*

INTRODUCTION

Coating is a process in which a polymeric layer is applied directly to one or both surfaces of the fabric. The polymer coating must adhere to the textile and a blade or similar aperture controls the thickness of the viscous polymer. The coated fabric is heated and the polymer is cured (that is, polymerized). Where a thick coating is required this may be built up by applying successive coating layers, layer on layer, Interlayer adhesion must therefore be high [1]. Finally, a thin top layer may be applied for technical enhancement of the coating. Depending upon the end-use requirements, heavy duty technical textile coatings may be applied at high weight, fen while other end-uses for

high-technology apparel may require coating weights very low. The chemical formulation of the coating, the coating thickness and weight, the number of layers, the form of the technical textile and the nature of any pre-treatment (such as to stabilize the fabric dimensions prior to coating) are of great importance. Traditionally, coating has been applied to woven technical textiles, but increasingly warp-knitted, raschel [2], weft-knitted and nonwoven fabrics must be coated on the same line.

The overall properties of a polymer coated textile are mainly dependent upon the:

- Characteristics of the textile substrate (with the exception of metallic, glass, and inorganic fibre woven textiles, all other textile substrates are always polymeric).
- Characteristics of the coat applied (which is also a polymer).
- Coating/Adhesion methods selected and employed [3] in which the adhesive used is polymeric in general.

The first step in the production of a coated textile fabric is 'direct spreading' of the (thickened liquid or paste) polymer in liquid form over the textile surface. The thickened liquid is allowed to evaporate, leaving the polymer on the fabric (if solvent-based) or allowed to transform into a coat (if plastisol- or dispersion-based); both of these processes are carried out in special ovens. During this process, appropriate crosslinking ('curing') of the polymer coat is achieved to improve durability to abrasion and resistance to solvents (and water). This type of processing has the advantage of producing coats without mechanical or thermal stresses.

A laminated (or combined) fabric consists of two or more layers, one of which is a textile fabric, bonded closely together by means of an added adhesive, or by the adhesive properties of one or more of the component layers. Conventional laminated technical textiles normally consist of one or more textile substrates that are combined using a pre-prepared polymer film or membrane by using adhesives or by using heat and pressure. Usually the layer in a laminated fabric consists of a polymeric substance; however, in some metalized fabrics the metal is not deposited by chemical deposition but is laminated using an adhesive or by use of an electric arc. Adhesion in lamination may be over the whole fabric surface or of the discrete type [4].

POLYMERIC MATERIALS COMMONLY USED FOR TEXTILES

The formulation of a coating is complicated, and it can contain a wide range of chemicals depending upon the nature of the polymer, the necessary additives for the specific end use, whether the coating has to be foamed prior to application, and the type of coating machinery to be used. Coatings may be coloured, translucent or opaque, fluorescent, photo- luminescent or retro-reflective, according to the end user requirements [5]. Some thermoplastics are used as they allow the material to be used as they allow the material to be used as hot melt adhesive and in some cases for welding techniques. They are used as coating polymers. It is important to realize that coating formulations consists of several additives. Amongst these are UV radiation and heat stabilizers, antioxidants, fillers to improve the mechanical properties.

POLYMERS: -

Poly Vinyl Chloride (PVC)

Poly Vinylidene Chloride (PVDC)
Poly Urethane (PU)
Acrylic
Ethylene Vinyl Acetate (EVA)
Polyolefins, LDPE, HDPE, Polypropylene
Silicon
Poly Tetra Fluro Ethylene (PTFE)
Natural Rubber (NR)
Styrene Butadiene Rubber (SBR)
Nitrile Rubber (Acrylonitrile/Butadiene) NBR
Neoprene Rubber
EPDM Rubber
Butyl Rubber (BR)
Polychloroprene Rubber

TYPES OF COATING METHODS

There are several processes for the application of coating to the textile material depending upon the requirement of end product. Some of these processes are described below:

- **Direct Coating**

The simplest coating procedure is the direct method, sometimes called the 'floating knife' or knife over air technique where the fabric is stretched flat to form an even uniform surface and is transported under a stationary doctor blade[6]. As the fiber moves forward, it is scraped by the knife and the polymer resin compound is spread evenly over the surface. Waterproof protective clothing fabric, automotive car seat fabrics, tarpaulins and light weight material for inflatable are produced by the direct method.

- **Foamed and Crushed Foam Coating**

This is possible because the foam, which is rather like shaving cream, sits on the top of coating. Crushed foam coating increases the no. of fabrics which can be coated; it also greatly reduces penetration of resin into the fabric, which allows the production of much softer handles and better drape than can generally produced by direct coating[7]. This technique is used for apparel goods, floor coverings, wall coverings, black-out curtains and curtain linings and filter materials.

- **Transfer Coating**

The principle of transfer coating is first to spread the polymer on to release paper to form a film and then to laminate this film to the fabric. The main uses of this type of coating technique are the transfer coated polyurethane fabrics is in up-market and the waterproof protective clothing

- **Hot Melt Extrusion Coating**

This method is used for thermoplastic polymers such as polyurethane, polyolefins and PVC, which are applied by feeding granules of the material into the nip between moving heated rollers. This process is used to produce light weight coverings or tarpaulins.

- **Calender Coating**

Calenders are primarily used to produce unsupported films of PVC and rubbers from compounded polymer 'dough'. This process can also be adapted to apply freshly produced film to fabric. The thickness of the film is determined by the gap separation of the rollers, but there is usually a limit to the thinness of films which may be produced by this method [8].

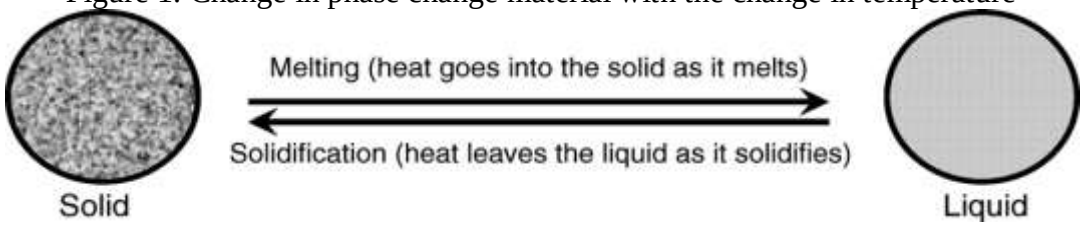
- **Rotary Screen Coating**

The rotary screen technique which applies compound to a fabric by forcing it through a cylindrical screen, it is used mainly for textile printing. The technique can also be used for coating polymer onto fabric with add-ons. When deposited on to the fabric, the resin in the dots flows and merges together to form a continuous coating.

- **Phase Change Materials**

Phase change materials (PCM) take advantage of latent heat that can be stored or released from a material over a narrow temperature range[9]. PCM possesses the ability to change their state with a certain temperature range. These materials absorb energy during the heating process as phase change takes place and release energy to the environment in the phase change range during a reverse cooling process. Insulation effect reached by the PCM depends on temperature and time. Recently, the incorporation of PCM in textiles by coating to make thermo-regulated smart textiles is going on.

Figure 1. Change in phase change material with the change in temperature



The PCMs change phases within a temperature range just above and below human skin temperature would be suitable for application in textiles. This interesting property of PCMs would be useful for making protective textiles in all-season.

- **Antibacterial Coating**

The cotton fabric is coated with PBA-chitosan particles by using a conventional pad-dry-cure method. The cotton treated with PBA-chitosan particles demonstrates an excellent antibacterial activity with bacterial reductions more than 99%. The presence of apatite-coated TiO2 shows antibacterial activity in the presence of black light or visible light, suggesting its potential use in reducing the risk of microorganism transmission for textile applications. A novel antibacterial coating for cotton fabrics has been developed using core-shell particles that consist of poly (n-butyl acrylate) (PBA) cores and chitosan shells.

- **Conductive Coating**

Polypropylene (PP) and viscose (VS) textiles were modified by the in situ synthesis of a conducting poly pyrrole (PPy) overlayer. To improve adhesion of the conducting layer to the textile surface, a pyrrole-functionalized silane (SP) was synthesized and bonded onto the surface before poly pyrrole formation. Moreover, to introduce hydroxyl groups into the surface, PP was pre treated by grafting vinyl trimethoxy silane by means of a radiofrequency plasma discharge.

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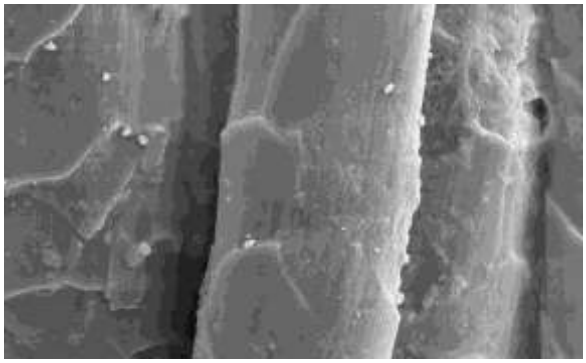

Figure 2. Poly pyrrole applied to a wool substrate by the vapour polymerization method. Magnification 6590x[14]

TYPES OF LAMINATION METHODS

- ***Flame Lamination***

Flame lamination can be used to adhere polyurethane foam to a textile material. A web of over a gas flame at around 950^{0}C and combined with the textile material from a second roller in the first nip of a three-bowl system[10]. The foam-laminated textile material is then passed through the second nip and wound up on a third roller (Figure 3). Three-ply laminates are possible by the addition of a second burner to the machine. The major disadvantage is the high capital cost of equipment-for in- stance, carbon filter absorbers are needed to clean up the gaseous emissions so that they comply with legislative requirements. Flame lamination has been widely used for automotive fabrics.

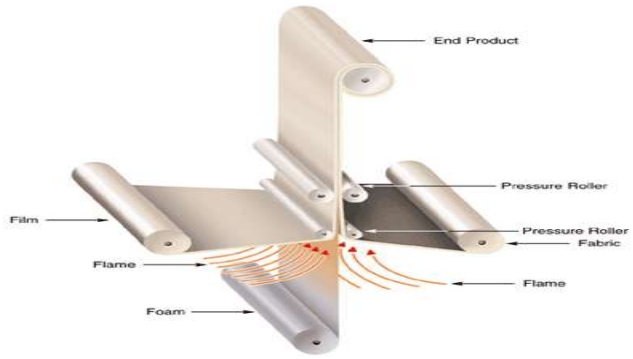

Figure 3. Process of flame lamination

- ***Adhesive Lamination-aqueous Based***

Adhesive lamination can be used to laminate two fabrics by applying an aqueous-based pressure-sensitive adhesive by knife-over-roller spreading. Alternatively, the pressure-sensitive adhesive can be spread on a release paper and then transfer coated to the textile material, which can then be combined with a second fabric by bringing these into contact under heat and pressure to remove the water[8].

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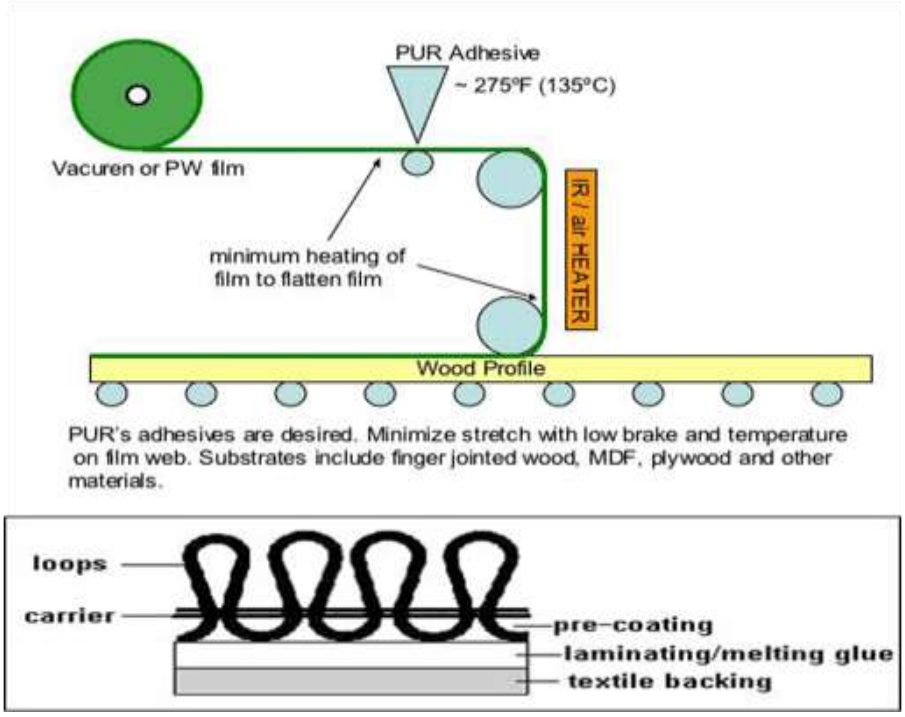

Figure 4. Process of adhesive lamination

- ***Adhesive Lamination-solvent-based***

Solvent-based adhesives can be used to laminate microporous membranes to textile fabrics to provide a barrier against liquids (for use in hospital theatre gowns and to protect mattresses, for instance)[11]. Solvent-based poly- urethane that cures in the presence of moisture is sprayed on the fabric and the membrane is nipped against the adhesive surface (Figure 5). Then the two are held together while cross-linking takes place to form the necessary bonding

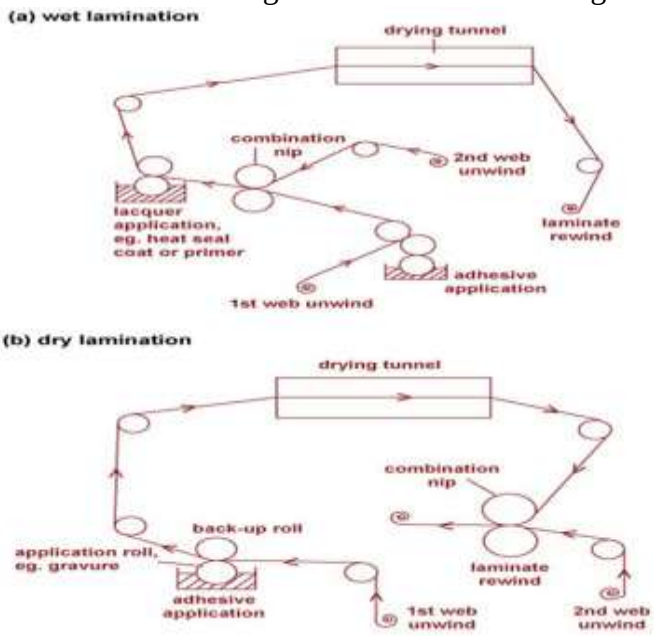

Figure 5. Process of adhesive lamination-solvent-based

- **Heat Lamination**

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Heat lamination using a hot -melt adhesive supplied as a solid, or slit film net or web can be carried out on the surface of a heated central drum (180-250[degrees]C) where the materials are held together as a two-ply composite under a tensioned continuous pressure blanket[5]. Flatbed laminating machines can also be used, but the method is unsuitable for heat-sensitive fabrics (Figure 6). Heat lamination has been widely used for heat-sensitive fabrics.

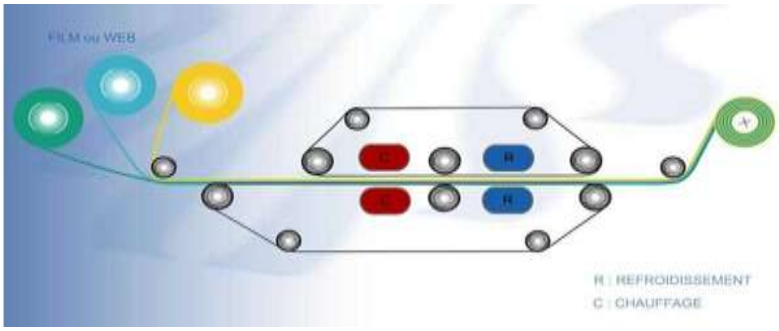

Figure 6. Process of heat lamination

- ***Hot -melt Adhesives***

Hot -melt adhesives are thermoplastic and can be melted or softened by heat. When spread on the fabric in the hot state, lamination with another fabric can occur on re-solidification as the coating cools down. A variety of methods can be used with hot -melt adhesives. Slot die extrusion allows high viscosity hot -melt adhesives to be extruded as a continuous film directly on all types of textiles. Mixing the ho-melt adhesive with air inside. Alternatively, roller and calender hot -melt coating and laminating may be used.

- ***Manufacture of 3D Structures by Cold Low Pressure Lamination of Ceramic Green Tapes***

Commercial ceramic green tapes were used which were laminated by Cold Low Pressure Lamination (CLPL). Which allows to join particularly fine, complex structures with cavities or undercuts, because no mass flow occurs. This technique is based on gluing the adjacent tapes by means of an adhesive film at room temperature under a low pressure[12].

- *Processing of an Aqueous Tape Casting of Meso carbon Microbeads for High-performance Carbonaceous Laminations*

Aqueous tape casting was adopted to obtain high-performance carbonaceous laminations with homogeneous density and high strength. For the preparation of a stable and homogeneous slurry of meso carbon microbeads, the research focuses on the rheological behavior of slurries consisting of a solvent and additives such as a binder, plasticizer and dispersant. During sintering of green laminations, the additives are pyrolyzed at 500 °C to form amorphous carbon[13], which reduces the electrical conductivity and the mechanical strength of the carbonized laminations.

APPLICATIONS IN SMART TEXTILE

- To carry out these functions, smart or intelligent textiles must possess special properties that the conventional fiber does not have. The clothing must have a

sensing function in order for it to perceive such variables as biomedical signals and body temperature of its wearer. Furthermore it must also have the actuator function to inform its wearer of the information or services available in the external world. It would be an ideal case if the fiber itself becomes the sensor or has a built-in actuator function.

- Smart textiles that are manufactured mainly for the purpose of protection are referred to as protective textiles such as to provide thermal comfort and antifreeze safety. Wool fibers stuffed into crude footwear was the first nonwoven felts used for the protection of human feet. Wool is the best natural occurring heat generating fiber that has been used to warm up the body in colder environments since ancient ages. Heat is released from the wool as it absorbs moisture. If 1 kg of dry wool is allowed to get saturated in humid air, 960 kJ of heat will be generated that is equal to the heat produced by an electric blanket running for eight hours.

- Metallic wires are also used in heated fabrics and personal heating garments. Electrical wires have been used in electrically heated wearing apparel and in heating gloves. The gloves can be worn with outer cape-leather for protection to skin from electrical wires. The first documented evidence for the use of metallic wires in textile clothing is found in World War II.

- Now-a-days, more sophisticated conductive yarns are being produced instead of metallic wires that contain the properties of textile yarns. Manufacturing of conductive yarns helped textiles find application in the field of electrical components and electronics. Further textile actuators like heating fabrics have been used in numerous and varied fields such as sports, leisure, medical and automotive. Smart clothing is being made with conductive yarns where an electrical current is required to pass through the fabric.
- Heating textiles are also used in the automobiles industry. It is also used in medical fields such as electrotherapy treatment, medical blanket for maintaining patient's body temperature, strain sensors and motion capturing devices. Many accidents reported in the past years are due to accumulation of ice on aircrafts. Heated textiles can also be used in the aircraft industry as an anti-freezing agent to avoid the accumulation of ice on the wings of aircraft.

- Conductive materials such as metals and conducting polymers are already being used in many textile applications such as antistatic materials, electromagnetic interference shielding, heating, transport of electrical signals and in sensors, *etc*. The temperature of heating materials depends on the thermal

power given off the textile. Clothing heated with textiles ensures an appropriate temperature gradient between the body and the environment.

CONCLUSION

The coating and lamination gives a powerful tool for the advancement of textile technology. It provides the opportunities to produce the special fabrics like water-proof resistant coverings, large tents and architectural uses, back coating for upholstery including auto seats, Food, Medical applications, parachutes, Woven curtains, for heat-sensitive fabrics, automotive fabrics, disposable hospital apparel etc. the recent developments also enhanced the lamination and coating technique into state-of-art process of the future in textile field.

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COMPARATIVE STUDY ON EMOTIONAL INTELLIGENCE & WORK LIFE BALANCE IN COMMERCIAL BANK IN MORADABAD CITY

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ABSTRACT

The Banking Industry today has been seeing different issues in keeping up work life balance. Subsequent to having surveyed the accessible Literature it is Observed, a few result has been completed with respect to Work Life Balance and different parts of Work Life Balance. One of such perspective which has been Observed while looking into Academic literature and individual perception is Emotional Intelligence. Many organizations across sectors believe trust that Emotional Intelligence assumes a fundamental job in keeping up Work Life Balance of the representatives. The researchers have attempted to try to approve this conviction. Hence, the principle of this research was to find the Comparative study between Emotional Intelligence and Work Life Balance of the employees working in Commercial Bank of the region Moradabad City.

Keywords: Emotional Intelligence, Work Life Balance, Bankers & Banking.

INTRODUCTION

Work-Life Balance

In this competitive World, managing the balance between personal and professional life is becoming more challenging. This trend is putting up a lot of pressure in many industries, especially the Banking Sector, where the norm is to come to the office and work from home when it is required. Imbalance in the work-life is increasing the count of dissatisfied and unproductive employees. One of the major reasons for attrition nowadays is because of the inability of the employee to have a work life balance. There is a need for Organizations and employees to find new solutions that maximize productivity without damaging employee's personal life. These are certain groups whose lifestyle can often demand greater concentration to work-life balance like working mothers, mature workers and some minority groups. Work life balance, in a way can be said to be acceptable level of balance between numerous roles in a person's life.

Emotional Intelligence

The term emotional intelligence (EI) refers to the ability to identify, use, understand and manage emotions and emotional information. Emotional intelligence plays a major role in the present day environment especially in regard to how it affects today's workforce. Businesses are essentially people oriented. So anything that impacts the effectiveness of people's minds also impacts the businesses they run or work for. Every business organization comprises of people with different strengths, personalities and emotions, which can greatly affect the way they work. In fact, many experts now believe that a person's emotional intelligence quotient (EQ) may be more important than their intelligence quotient (IQ) and is certainly a better predictor of success, quality of relationships, and overall happiness.

Component	Definition	Hallmarks
Self –Awareness	The ability to recognize and understand your moods, emotions and drives, as well as their effect on others	• self Confidence • realistic self-assessment • self-depreciating sense of humour
Self-Regulation	The ability to control or redirect disruptive impulses and moods	• trustworthiness and integrity • comfort with ambiguity • openness to change
Motivation	A passion to work for reasons that go beyond money or status	• strong drive to achieve • optimism, even in the face of failure • organizational commitment
Empathy	The ability to understand the emotional make up of other people Skill ij treating people according to their emotional reactions	• expertise in building and retaining talent • cross-cultural sensitivity • service to clients and customers
Social Skill	Proficiency in managing relationships and building networks An ability to find common ground and build rapport	• Effectiveness in leading change • Persuasiveness • Expertise in building and leading teams

Objectives

1. To identify the major factors related with Emotional Intelligence influencing Work Life Balance of Bank professionals in the present day context. •
2. To find out highest rank between Emotional Intelligence and Work Life Balance.

Limitations

1. The study will be restricted to Commercial bank of the region Moradabad.
2. It is restricted to age group of 25-50 years for the Banking employees of Moradabad.

Review of Literature

Emotional Intelligence:

Emotional intelligence is a relatively new subject of study, though its roots go back to the time of Darwin who said that emotional expression was essential for survival Year

Year	Author	Theory
2005	Rahim	Investigated the relationships of the five dimensions of emotional intelligence and suggested that self-awareness is positively associated with self-regulation, empathy, and social skills; self-regulation is positively associated with empathy and social skills; empathy and social skills are positively associated with motivation; which in turn, is positively associated with problem solving strategy and negatively associated with bargaining strategy.
2006	Paul	Suggested that "Affective components of intelligence may be essential to get along with other people"
2008	Nikaloau	Investigated the relationship of emotional intelligence (EI) characteristics, such as perception, control, use and understanding of emotions, with physical and psychological health.
2009	Parvathy	Published "The Shattered Mind" which introduced the concept of

		multiple intelligences
2009	Mayer	Described the fact that an individual, both in his career as well as in personal life, takes up different psychological roles. These roles are labeled as distinctive ego-states.
2010	Lisa T.Fall, Stephinie Kelly& Patrick Macdonald	In their study they strongly revealed that EI has strong correlation with job satisfaction in academics. Among the four factors EI, Use of emotion (UOE), and Regulation of emotions (ROE), have the highest impact on job satisfaction (Mayor and Salvoy, 1997).
2015	Parikshit Joshi, SK Suman and Mudita Sharma	In their study examines emotional intelligence as a predictor of intercultural communication apprehension among university students. Results indicate that three of the emotional intelligence sub scales predict intracultural communication apprehension: emotionally, sociably, and self-control
2015	Jennifer L. Voleberding, Timothy Baghurst &Theresa Brown	Conducted a study to determine the advantages of the knowledge and application of emotional intelligence within the hospitality realm, both towards the internal workgroup than towards the internal workgroup than towards the relation to guests.

Work-Life Balance

Year	Author	Theory
2011	Farni and Ibrahim	After conducting qualitative method on four informants who are employees in Majlis Daerah Samarahan, Kota Samarahan have mentioned that Work-life balance is one of the most important areas of human resource management which employees must emphasize in their life
2011	Rangreji	Wherein they used descriptive method on 55 employees from an organisation including both male and female were questioned have even mentioned that motivating oneself, self awareness and realization of one's goals and motivating oneself to achieve goals in terms of relationships at work and also at home
2012	Vanitha	Mentioned that the employees in banking sector are more likely to be seen as participative, self-aware, poised and balanced
2014	Srividhya and Sharmila	Mentioned that the demands and pressures of work make difficult to widen time for balancing both work life and personal life activities
2016	Shin-yih et al	Conducted a study to determine the advantages of the knowledge and application of emotional intelligence within the hospitality realm, both towards the internal workgroup Emotional Intelligence positively impacts job performance.

Research Methodology

The researchers have attempted to try to approve this conviction. Hence, the principle of this research was to find the Comparative study between Emotional Intelligence and Work Life Balance of the employees working in Commercial Bank of the region Moradabad City.

The subject is chosen after thorough exercise of perusing different Journals, Online Articles and News, reaction from HR Managers and Employees working in Commercial bank.

Design/methodology/approach –The research was Designed out with the help of Questionnaire for Employees working in Commercial Bank in Moradabad city.

The sample size of employees for data collection was 100 from different banks of the age group 25-50 years. The technique used for carrying out the research was correlation.

Primary- The data was collected from the employees working in Commercial Bank in Moradabad city by a pre-designed Questionnaire.
Secondary – The data was collected from Journals, Articles and online sources.

Data Collection

The sample for the current study demonstrated the following factors affecting work- life balance of bank employee's and factors affecting Emotional Intelligence of the respondents under study. We score mean by likert scale for Work Life Balance & Emotional Intelligence will be considered .

Factors Affecting Work-life –Balance

Table 1.(A)

Work-life balance is about the interaction between paid work and other activities, including unpaid work in families and the community, leisure, and personal development.

Sr. No.	Factors affecting WLB of Banks Employee	Total respondents	Strongly agree	Agree	Neutral	Strongly disagree	Disagree
1.	Working environment	97	49.48	22.68	10.30	8.25	9.27
2.	Working hours	95	29.47	15.78	8.42	42.10	4.21
3.	Overtime	93	55.91	19.35	4.30	9.68	10.75
4.	Deadlines/schedules/targets	92	54.34	21.73	3.26	9.78	10.86
5.	Salary/compensation/benefits	98	53.06	22.44	10.20	9.18	5.10
6.	Negative attitude of supervisors/ colleagues	85	37.64	25.88	5.88	21.17	9.41
7.	Work from home after office hours	89	22.47	53.93	12.35	5.61	5.61
8.	Work on holidays	96	20.83	54.16	5.20	10.41	9.37
9.	Traveling away from home	85	37.64	25.88	5.88	21.17	9.41
10.	Work increases your sense of self-worth	98	53.06	22.44	10.20	9.18	5.10
11.	Performance appraisal system	85	37.64	24.70	7.05	21.17	9.41
12.	Career Growth and planning	89	42.69	26.96	10.11	11.23	8.98
13.	Organizational change	95	31.57	31.57	10.52	21.05	5.26
14.	Family/spouse support	94	40.42	27.65	17.02	9.57	5.31
15.	Management support	90	33.33	22.22	11.11	16.67	16.67

Average Agreement at Each Level Regarding Employee's Work Life balance

Table: 1(B)

Sr. No.	Factors affecting WLB of Banking Employee	Rank of respondents
1.	Working environment	2.05
2.	Working hours	2.75
3.	Overtime	2.00
4.	Deadlines/schedules/targets	2.01
5.	Salary/compensation/benefits	1.90
6.	Negative attitude of supervisors/ colleagues	2.38
7.	Work from home after office hours	2.17
8.	Work on holidays	2.33
9.	Traveling away from home	2.38
10.	Work increases your sense of self-worth	1.90
11.	Performance appraisal system	2.40
12.	Career Growth and planning	2.16
13.	Organizational change	2.36
14.	Family/spouse support	2.11
15.	Management support	2.61

It is clearly mentioned from the Table 1(A) and Table1(B) that the most noteworthy factor ensures Work Hour in Banks. It suggests that Suitable working hour are necessary for healthy balance between work and life. Like suitable working hour, achievable targets, less overtime. Facilities – For better work-life as much as facilities are received nearby or in organizations ensure easy balance between work and life. From the table researcher get highest rank estimated in working hours as 2.75 on the liker scale which implies that the respondents. Thus with different variables like vision sharing, esteeming representatives, Salary/compensation/benefits, Work increases your sense of self-worth are likewise getting lower rank 1.90 dimension of Weakness of bankers. It suggests that independent working is necessary to manage work and life situations as per demands of work and life according to priority. This suggests that if individuals are able to balance work and life easily they are happy to work in present organizations or Banks.

Factor Affecting Emotional Intelligence
Table 2. (A)

The present study attempts to reveal the perception of banking sector employees towards this extremely important concept

Sr. No.	Factors affecting EI of Banking Employee	Total respondents	Strongly agree	Agree	Neutral	Strongly disagree	Disagree
1.	Empathy	85	41.17	25.88	18.82	11.76	2.35
2.	Self-Awareness	94	51.06	26.59	8.51	10.63	3.19
3.	Self-Management	86	25.58	44.18	23.25	3.48	3.49
4.	Social Skills	80	35.00	31.25	26.25	2.50	5.00
5.	Self-Motivation	90	33.33	22.22	11.11	22.22	11.11
6.	Communication skills	91	30.76	49.45	10.98	8.79	9.89
7.	Assertiveness	93	47.31	29.03	8.60	11.82	3.22
8.	Problem Solving Capacity	86	24.71	42.69	22.47	3.37	3.37
9.	Social Intelligence	88	43.18	27.27	22.72	2.27	4.54
10.	Identify and express feelings and Emotions	92	50.00	27.17	8.69	1..86	3.26
11.	Problem solving and decision Making	90	42.22	27.78	23.33	4.44	2.22
12.	Understand consequences of feelings and emotions	89	28.08	35.75	22.47	2.47	11.23
13.	Manage own and others feelings.	88	43.18	27.27	22.72	2.27	4.54
14.	Upset	83	36.14	50.60	7.22	4.81	1.20
15.	Emotional expression	88	38.63	47.72	6.81	4.54	2.27

Average Agreement at Each Level Regarding Employee's Emotional Intelligence
Table 2. (B)

Sr. No.	Factors affecting EI of Banking Employee	Total Rank of respondents
1.	Empathy	2.08
2.	Self-Awareness	1.88
3.	Self-Management	**1.51**

4.	Social Skills	2.11
5.	Self-Motivation	2.11
6.	Communication skills	**2.56**
7.	Assertiveness	2.47
8.	Problem Solving Capacity	2.07
9.	Social Intelligence	1.98
10.	Identify and express feelings and Emotions	1.90
11.	Problem solving and decision Making	1.97
12.	Understand consequences of feelings and emotions	2.33
13.	Manage own and others feelings.	1.98
14.	Upset	1.84
15.	Emotional expression	1.84

The present study reveals that employees of selected banks were completely aware of this comparatively new concept and also unveil the fact self-management, self-awareness and empathy as the major emotional intelligence traits required by anyone. Similar to the earlier studies the survey respondents also agree that individuals who are more emotionally intelligent have much more life satisfaction, partake in others emotion, and also usually are more ordered, warm, prosperous, and optimistic. From the Table 2(A) and Table 2(B) clearly mention that the most noteworthy factor ensures Communication skills are necessary for an emotional intelligence. Like good communication skill achievable targets for better banking environment as much as facilities are received nearby or in organizations ensure emotional intelligence. From the table researcher get highest rank estimated in communication skill as 2.56 on the liker scale which implies that the respondent's strength. Thus with different variables like vision sharing, esteeming representatives, self-management likewise getting rank 1.51 dimension of Weakness of bankers. It suggests that dependent working is necessary to manage work and life situations as per demands of emotional intelligence according to priority. This suggests that if individuals are able to emotionally are happy to work in present organizations or Banks.

Conclusion

The current study investigated whether there is any significant relationship between emotional intelligence and work life balance of bank managers in Moradabad City. The findings concluded that higher levels of emotional intelligence of bank mangers lead to higher levels of work life balance as well as to job satisfaction at the workplace. Further, it was concluded that job satisfaction of bank managers leads to enhance their job performance. Hence, emotional intelligence can be recognized as one of the most critical skills that managers should possess in present day organizations. Thus the study suggests

that emotional intelligence helps the banks to achieve success and develop competitive advantage for the organization

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FERTILITY BOOSTER EFFECT OF *ASPARAGUS RACEMOSUS* AGAINST CHLORPYRIFOS INDUCED TESTICULAR TOXICITY IN RATS

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Abstract

The main objective of the study was to observe the fertility booster effect of on chlorpyrifos induced testicular toxicity. In the present study, Chlorpyrifos(20% EC) at the dose of 10 mg/Kg body weight was administered orally to male Charles Foster rats for 4 weeks. Thereafter, ethanolicroot extract of *Asparagus racemosus*at the dose of 400 mg per Kg body weight was administered for 8 weeks to observe the ameliorative effect of it on male reproductive system. The study reveals that after the administration of chlorpyrifos, there was decrease in the sperm counts, sperm motility accompanied by an increased incidence of sperm abnormalities leading to infertility. But, after administration of *Asparagus racemosus*, there was significant reversal in the parameters denotes that it not only possesses antioxidant and rejuvenating property but also maintains the cellular integrity of testicular cells leading to normal functioning of it. It is one of the best fertility booster against pesticide induced reproductive toxicity.

Keywords: Fertility booster, Chlorpyrifos, *Asparagus racemosus*, rats, testicular toxicity, Sperm Count.

1. Introduction

Indiscriminate use of pesticides by farmers for better yield of crops in the recent times has caused health related problems in the population. The magnitude of the problem is so severe that it has led to male infertility in the population. Chlorpyrifos (CPF) is an organic thiophosphate that is O,O-diethyl hydrogen phosphorothioate in which the hydrogen of the hydroxy group has been replaced by a 3,5,6-trichloropyridin-2-yl group. It has a role as an EC 3.1.1.7 (acetylcholinesterase) inhibitor, an agrochemical, an EC 3.1.1.8 (cholinesterase) inhibitor, an environmental contaminant, a xenobiotic, an acaricide and an insecticide. It is an organic thiophosphate and a chloropyridine (ATSDR 2011).

Chorpyrifos (CPF) can be absorbed through the gastrointestinal mucosa, lung epithelium, and skin. After oral exposure CPF is quantitatively absorbed by the gastrointestinal tract and enters the bloodstream. When 50 mg/kg body weight (bw) CPF is administered to rats in corn oil, .80% of the dose was absorbed, resulting in cholinesterase (ChE) inhibition (Timchalk et al., 2002b); by using an intestinal perfusion model, 99% of CPF was absorbed by rat small intestine (Cook and Shenoy, 2003). CPF is a weak acetylcholinesterase (AChE) inhibitor per se but it can be desulfurated by several isoenzymes of the CYP family to form the phosphate triester CPFO (McBain et al., 1971; Sultatos et al., 1984a,b; Sultatos, 1994), which is a powerful inhibitor of brain and serum AChE (Forsyth and Chambers, 1989). CYPs can also catalyze CPF dearylation/ dealkylation, which is considered a detoxication reaction, giving rise to TCP and DETP (Sultatos et al., 1982; Sultatos, 1994). During the desulfuration reaction, the formation of activated sulfur atoms, able to bind irreversibly to the active CYP, causes enzyme loss and reduction of the corresponding monooxygenase activity (Halpert et al., 1980). This can influence the metabolism of both endogenous com-pounds as steroid hormones (Usmani et

al., 2003, 2006) and other chemicals to which it is possible to be coexposed (Hodgson and Rose, 2007), such as other pesticides (fipronil and carbaryl) (Joo et al., 2007; Tang et al., 2002), diesel fuel component (nonane) (Joo et al., 2007), and drugs (imipramine) (Di Consiglio et al., 2005). These chemicals through various pathways causes male reproductive damage especially the sperm morphology. Hence, it becomes, very necessary to evaluate the effect of fertility damage caused by the pesticide like CPF.

Asparagus racemosus or *Shatavari* is an Ayurvedic herb used for centuries for many issues, including as a reproductive tonic for both men and women, as a digestive soother, and an herb that helps one adapt and cope with stress. It is rich in antioxidants and helps to promote healthy energy levels and strength. It helps to increase the vital fluids in the body. For men, Shatavarihelps with the following as rejuvenating tonic for the male reproductive system, increases reproductive fluids, supports and increases healthy sperm count, helps reduce male sexual problems, reduces inflammation of the male sexual organs and helps correct impotence (Puri, 2002; Thakur et al., 2007).

However, no studies have reported the effect of *Asparagus racemosus* extract as antidote and fertility booster against chlorpyrifos induced male reproductive toxicity in rats. Thus, present study deciphers the protective and fertility booster effect of *Asparagus racemosus*against Chlorpyrifos induced male reproductive toxicity.

2. Materials &Methods :

2.1 *Test Chemical:*Chlorpyrifos (20% EC), (CAS No.2921-88-2) manufactured by Excel Crop Care Limited, Mumbai was obtained from the Pesticide store of Patna.

2.2 *Animals:* Charles Foster rats (30 males), weighing 160g to 180g of 8 weeks old, were obtained from animal house of Mahavir Cancer Institute and Research Centre, Patna, India (CPCSEA Regd-No. 1129/bc/07/CPCSEA). The research work was approved by the IAEC (Institutional Animal Ethics Committee) with IAEC No. 2015/3I-16/12/15. Food and water to rats were provided *adlibitum* (prepared mixed formulated food by the laboratory itself). The experimental animals were housed in conventional polypropylene cages in small groups (2 each). The rats were randomly assigned to control and treatment groups. The temperature in the experimental animal room was maintained at 22 ± 2^0C with 12 hours light/dark cycle.

2.3 *Preparation of plant ethanolicextract :* In the present study, dry root of *Asparagus racemosus*were purchased from Haridwar Medicinal Store, Haridwar, Uttrakahand, India. The identity of the medicinal plant was confirmed by Dr.Ramakant Pandey (Botanist), Department of Biochemistry, Patna University, Patna, Bihar, India. The collected root of *Asparagus racemosus*wereshade dried and were grinded to fine powder. The powder was then soaked in 70% ethanol for 48 hours and finally extracted with absolute ethanol using soxhlet apparatus for 6 -8 hours and the residue was concentrated and dried at 37^0C. The ethanolic extract dose was calculated after LD_{50} estimation and finally made to 400 mg kg^{-1} body weight.

2.4 *Experimental Design:* In the present study, Chlorpyrifos was administered orally to male Charles Foster rats (n = 24) at the dose of 10 mg Kg^{-1} body weight per day for 4 weeks while control male rats (n = 6) were also taken for the comparative study. Thereafter, ethanolic root extract of *Asparagus racemosus*(Shatavari) was prepared andadministered at the dose of 400 mg Kg^{-1} body weight per day for 6 & 8 weeks to observe the fertility booster effect of it on 4 weeks Chlorpyrifos pre-treated group. Drinking water and feed was provided to the animal *ad libitum.* After the end of the experiment the rats were anaesthesized and their sperm counts were done and then they

were sacrificed for serum extraction for serum lipid peroxidation analysis, while their testes were fixed in the neutral formalin for histopathological study.

2.5 ***Sperm counts:*** The cauda epididymis was dissected out and washed thoroughly in normal Saline (0.85 %). Cauda epididymis was incised and made puncture at several places in 1 ml of distilled water in watch glass so as to allow the sperm to ooze out. After that, two drops of Eosin Y was mixed well with sperm. Sperm counts was made using an improved Neubauer's chamber taking a drop of above preparation in it & observed at 450x magnification.

2.6 ***Sperm motility :***Cauda epididymis was dissected out and ruptured on microscopic slide. After covering it with a cover slip, the motility of the spermatozoa was examined.

2.7*Lipid Peroxidation:*Thiobarbituric acid reactive substances (TBARS), as a marker for LPO, were determined by the double heating method (Draper and Hadley 1990). The principle of the method was a spectrophotometric measurement of the colour produced during the reaction to thiobarbituric acid (TBA) with malondialdehyde (MDA). For this purpose, 2.5 ml of 100 g/l trichloroacetic acid (TCA) solution was added to 0.5 ml serum in a centrifuge tube and incubated for 15 min at 90^{θ}C. After cooling in tap water, the mixture was centrifuged at 3000 g for 10 min, and 2 ml of the supernatant was added to 1 ml of 6.7 g/l TBA solution in a test-tube and again incubated for 15 min at 90^{θ}C. The solution was then cooled in tap water and its absorbance was measured using Thermo Scientific UV-10 (UV –Vis) spectrophotometer (USA) at 532 nm.

2.8*Histopathology :*All rats were sacrificed after the scheduled period. A midsaggital incision was made and testicular tissue from all the rats were removed and fixed in 10% neutral formalin. For the light microscopic study, the Haemotoxylin- Eosin stained slides were prepared and the sections were viewed under light microscope.

2.9*Statistical Analysis:* Results are presented as mean ± SD and total variation present in a set of data was analysed through one way analysis of variance (ANOVA). Difference among mean values has been analysed by applying Dunnett's test. Calculations were performed with the Graph Pad Prism Program (Graph Pad software, Inc., San Diego, U.S.A.). The criterion for statistical significance was set at $P< 0.05$.

3. Results :

3.1 ***Morbidity &Mortality :***The rats after chorpyrifos (10 mg Kg^{-1} body weight) for 4 weeks have shown signs of toxicity such as general body weakness (sluggishness), lack of body co-ordination.

3.2 ***Sperm counts :***TheChlorpyrifos treated rats caused marked reduction in their sperm counts in comparison to control ones. But, after the administration of *Asparagus racemosus*there was significant increase in the sperm counts denotes normalisation in the testicular functioning (Fig.1.).

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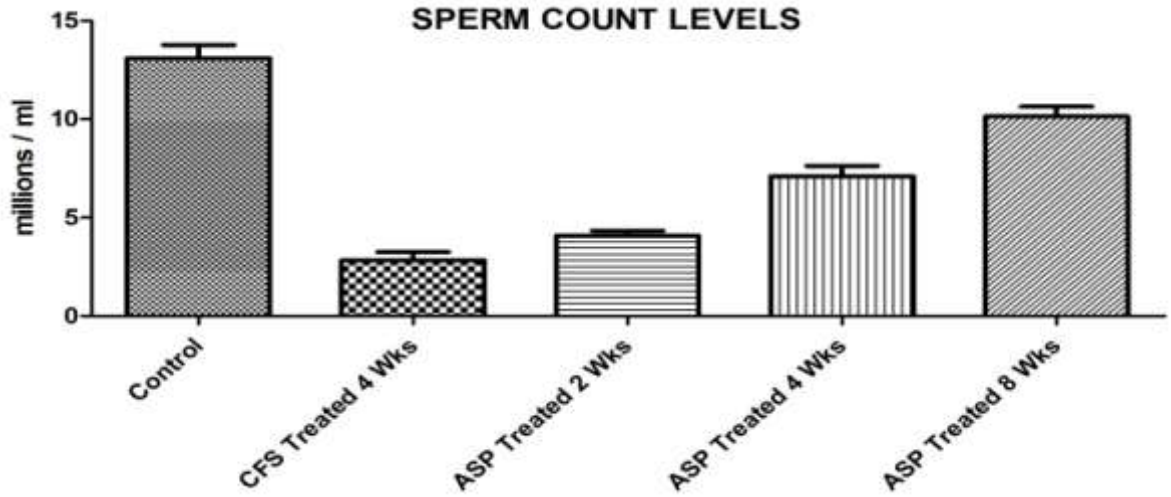

Figure. 1. Showing Sperm Count levels

3.3 ***Sperm morphology &motility :*** The Chlorpyrifos treated rats caused marked reduction in their sperm motility in comparison to control ones (Fig.2.). The major sperm abnormalities observed were loss of sperm tails, coiling in sperm tails etc. denotes the degeneration caused by Chlorpyrifos. But, after the administration of *Asparagus racemosus*there was significant increase in the sperm motility denotes restoration in the spermatozoa.

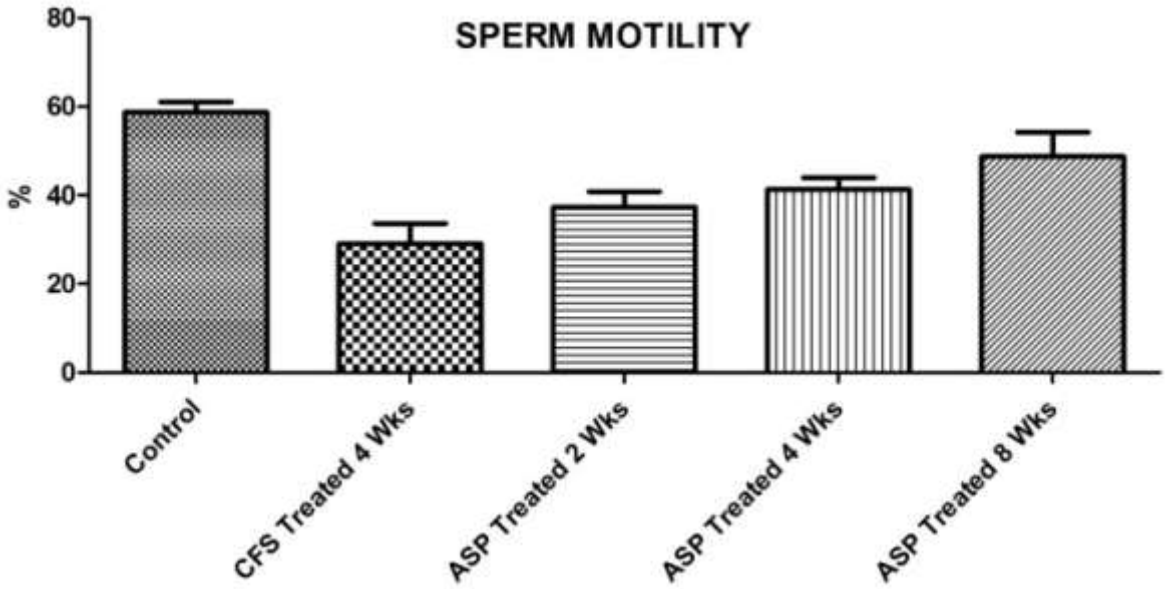

Figure 2. Showing Sperm motility levels

3.4*Lipid peroxidation assay :*There is increase in the lipid peroxidation levels after chlorpyrifos exposure in comparison to control denotes the cellular oxidative stress but after the administration of *A.racemosus*there is significant decrease in the LPO levels denotes the antioxidant property of *A.racemosus*(Fig.3.).

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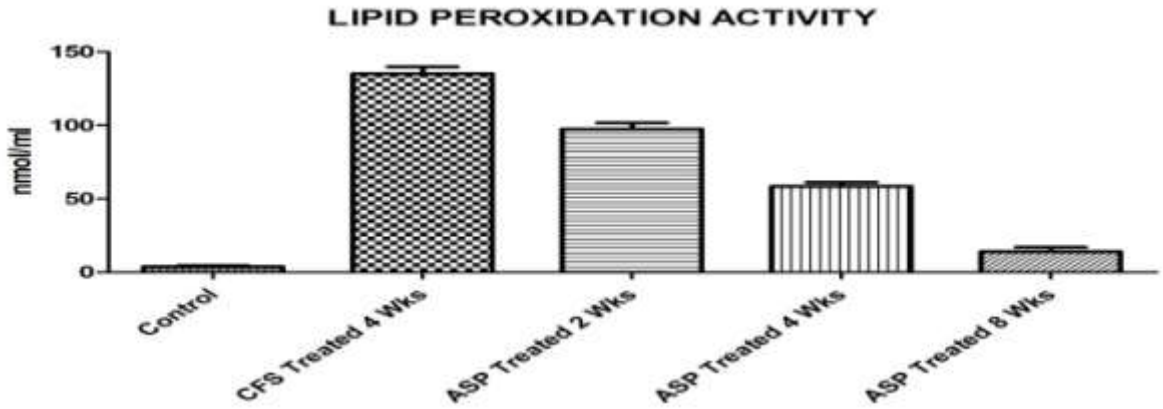

Figure. 3. Showing Lipid peroxidation levels.

3.5*Histopathological study* **:**The control testis shows the normal architecture of seminiferous tubules with spermatogenetic stages – primary spermatocytes, spermatogonia, spermatids and spermatozoa well arranged. The leydig cells aligning the inter – seminiferous tubules are normal denotes the normal functioning of the spermatogenesis (Figure 4.). But, in Chlorpyrifos4 weeks treated testicular sections, it has caused severe damage to the testicular cells as although there are seminiferous tubules but no spermatogenetic stages or only 5% denotes the normal function. The leydig cells are in highly degenerative condition (Figure 5.). But, after the administration of *Asparagus racemosus*for 8 weeksthere has been immense amelioration, as restoration in the spermatogenetic stages. The primary spermatocytes, spermatogonia, spermatids and spermatozoa all are well arranged denotes the significant normalisation in the function of the testicular cells. The leydig cells also shows amelioration denotes the normalisation in its function (Figure 6).

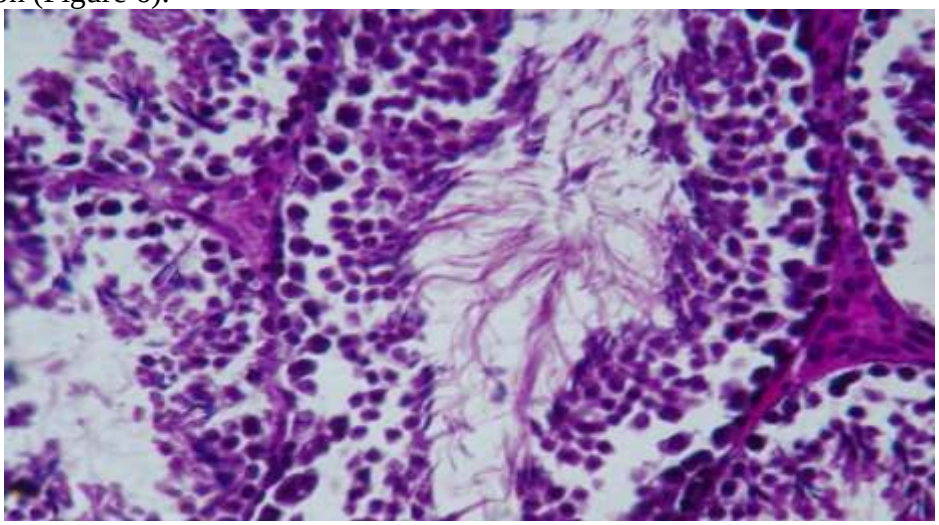

Figure.4 . Showing control section of testis of rat

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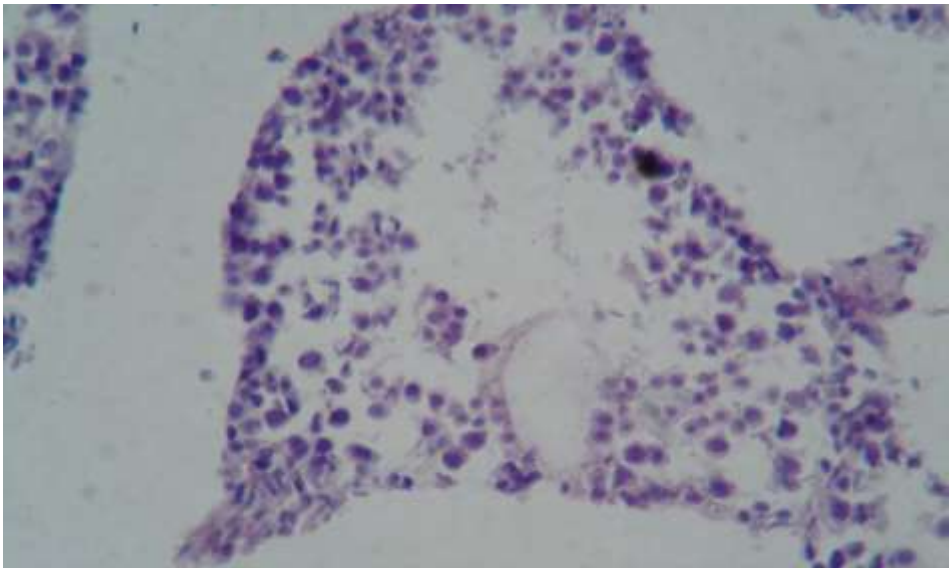

Figure 5. Showing Chlorpyrifos 4 weeks treated section of testis.

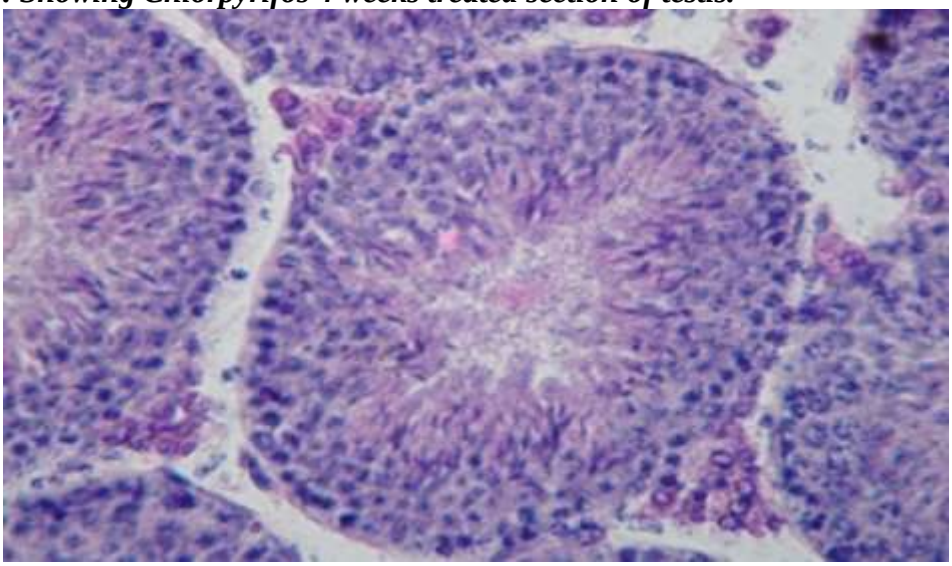

Figure 6. Showing Asparagus racemosus 6 weeks treated section of testis

4. Discussion :

In thepresent investigation, the Chlorpyrifos exposure (80 mg Kg^{-1} body weight) has caused severe damage to the male reproductive function especially the testis of the rats. There was significant decrease in the levels of sperm counts, sperm motility while significant increase in the lipid peroxidation levels denotes that Chlorpyrifos had severely caused release of free radicals which in turn has caused hormonal imbalance especially, the testosterone hormone. The low testosterone levels generally lead to abnormal functioning of spermatogenesis in seminiferous tubules. to less production of spermatozoa endocrine disruption which led to high secretion of leutenising hormone (LH) leading to improper functioning of the leydig cells. The extreme low levels of testosterone cause abnormal functioning of the spermatogenesis causing change in the sperm counts and sperm morphology.

There has been reporting that chlorpyrifos caused immunological abnormalities and also causes oxidative damage to the testicular tissues (Trasher et al 2002). In the present study, there has been significant generation of lipid peroxidation which could have led to

inhibition of mitochondrial ATP production in chlorpyrifos treated group. This abnormal function can also cause abnormal production of spermatozoa which has less capability of sperm cell capacitation, acrosomal reaction and sperm binding to zona pellucida which is a case of male infertility (Goel et al., 2005; Jett &Navoa 2000; Ishi et al., 2004; Joshi et al., 2007; Dwivedi et al., 1998; de Lamirande et al. 1997; Sikka 2001).

The histopathological study also reveals the significant damage in the testicular tissue especially the seminiferous tubules. In the seminiferous tubules, there were degeneration in the spermatogenetic stages, which is due to the deleterious effect of chlorpyrifos. Various studies conducted on pesticides have also shown similar damage effects on the testicular cells (Uzun et al., 2009; Ferdinand et al., 2014; Farag et al., 2007; Sayym 2007; Babazadeh and Najafi 2017).

In the present study, there was significant normalisation in the sperm counts and sperm morphology after the medicinal plant *Asparagus racemosus* treatment to the chlorpyrifos pretreated group. This denotes that *Asparagus* possesses active ingredients which controls the hormonal activity which in turn normalises the testicular functions. The histopathological study also shows significant normalisation in the spermatogenetic stages as the primary spertocytes, spermatogonia, spermatids and spermatozoa appears to be normal in architecture.

In a similar study carried out with lyophilized aqueous extracts roots of Asparagus racemosus showed sexualbehavioral effect in male albino rats. It pronounced anabolic effect by weight gains in body and reproductive organs while there was a significant variation in the sexual behaviour of animals as reflected by reduction of mount latency ejaculation latency, postejaculatory latency, intromission latency (Thakur et al., 2004).Fructans and fructoligosaccharides have been shown to possess significant effectiveness in overcoming this damage. Therefore, the overall constitution of aqueous extract of A. racemosus rich in steroidal saponins and fructooligosaccharides provides a prototype combination for combating the degenerative influence on sexual functions (Kniel et al., 1986).

Hence, from the entire study it can be concluded that Asparagus racemosus plays vital role in controlling the chlorpyrifos induced reproductive toxicity in rats.

Conclusion:

Therefore, from the entire study, it can be concluded that, chlorpyrifos causes severe damage to the reproductive organs of the rats while *Aparagus racemosus* plays the vital role to control the damage. Hence, acts as the best male fertility booster.

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Herding in Banking Sector: Evidence from Indian Market

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Abstract
This paper investigates the herding behaviour among the banking sector of Indian stock market. The present study has used daily data from Jan 2007 to Dec 2018. The present study investigates herding by employing six different specifications based on Christie & Huang, (1995) and Chang, Cheng, & Khorana, (2000) models. These six specifications are also used by (Vinh, Bao, & Phan, 2019). Our finding suggest that there is no evidence of herding in Nifty bank index and Nifty private bank index stocks. However, for Nifty PSU bank indexed stocks we found evidence of herding in 2009 only. One of the reasons for herding in 2009 may be that in 2009 the global financial markets were recovering from the financial crisis of 2007-08.

Keywords
Herding behaviour, Banking Sector, CSSD, CSAD

Introduction
Banking sector is backbone of financial system of an economy. A country's economy is driven by how efficient their banking sector is. In recent time Indian banking sector is facing various challenges. One of the biggest problems of banking sector is the Non-performing Assets (NPA) which is piling up day by day. Apart from that, losses in rural branches, advance to priority sectors, and competition from non-banking financial institution are among various other factors. Economic growth acceleration is not possible without solving these problems. These problems also sometimes force investors to behave irrationally and herd each other. This irrational and herd behaviour is not desirable for any economy.

Herding is a phenomenon which makes disturbance in the economy, destabilize the economy and sometimes leads to financial crisis. According to Banerjee, (1992) herding behavior is "Everyone is doing what everyone else is doing, even when their private information suggests doing something quite different". Aytaç, Coqueret, & Mandou, (2018) describes herding as a tendency among investors when they imitate other investors by suppressing their own beliefs.

This study investigates whether herding exist in the Indian banking sector, for that purpose we utilizes Christie & Huang, (1995) model called cross sectional standard deviation (CSSD) for extreme market condition and Chang, Cheng, & Khorana, (2000) model called cross sectional absolute deviation (CSAD) for overall market condition without separating them as extreme market condition. To track the extreme market condition we separated data in bullish and bearish period. We divide data into bullish and bearish period by extremely up and down market by 0.5 quantile. Based on these two models various studies have been done in the field of financial market (Andrikopoulos, Kallinterakis, & Pedro, 2017; Demirer & Zhang, 2018; Humayun Kabir & Shakur, 2018; Vo & Phan, 2019).

Literature review
Li, Rhee, & Wang, (2016) investigated that how individual investor is different from institutional investor. They found that in Chinese stock market the magnitude of herding is

grater in less informed individual investor than more informed institutional investor. Apart from that individual investor relies on the basis of public information and market sentiment. But interestingly, both investors herding measures are negatively correlated with absolute market return and positively related to market trading volume. Herding behaviour is asymmetrical in institutional investor either it's up or down market but it's not in the case of individual investor. They also found that both investors look for each other decision to make consensus.

Andrikopoulos et al., (2017) in his paper investigated the presence of intraday herding in first ever cross border market group Euronext which constituent four markets (Amsterdam, Brussels, Lisbon and Paris). There results indicates that there is significant herding in Euronext as a group. Although result reveal that herding in Euronext is mainly for stocks of high and low capitalization but across several sectors, thus its confirming the existence of size and industry effects. As a country effect of herding, herding is significant in Belgium, France and Portugal, but same not in the case of Netherlands. Finally, there result shows that herding is found to be significant before, during and even after the 2007-09 financial crisis period in the Euronext, but its presence was the least strong during the crisis.

Arjoon & Bhatnagar, (2017) examined herding behaviour of investor using constant coefficient approach and a time-varying approach in Trinidad and Tobago stock market which is frontier market. They found evidence of herding which significantly affect overall market, but after dividing stocks into four size based quartile as they move towards smaller market the evidence of herding becomes more prominent, which indicate that greater asymmetric information is associated with smaller stocks. Increase in liquidity and volatility also leads to stronger herding but its intensity decreases with large firm size. They also found that there is herding irrespective of market state but it is stronger during rising market.

Clements, Hurn, & Shi, (2017) in his paper examined the empirical relation between equity return dispersion of Dow Jones Industrial Average stocks to find the evidence of herding. They developed the new empirical framework model to estimate herding toward market consensus which is based on time varying granger causality test. There empirical results reveal clear evidence of herding and its play important role during time of market turbulence like during subprime mortgage crisis, the European debt, the U.S. debt-ceiling crises and the Chinese stock market crash of 2015.

Pochea, Filip, & Pece, (2017) examined the herding behavior in ten Central and East European (CEE) stock markets on the basis of daily data using cck 2000 model. The result of OLS method found significance herding in Bulgaria, Estonia and Latvia. Nevertheless by using quantile regression to estimate the herding they found evidence of herding in all countries for specific quantiles, except for Poland and Romania. Further while investigating effect of market condition on herding they found that under down market herding present in almost all quantile levels in most CEE countries that means while facing fear investors investor follows trend and sell massively. During high volatility and high trading volume herding is more prominent in lower tail this may because herding is more in smaller stocks.

Zheng, Li, & Chiang, (2017) investigated herding behaviour of investors at industry level, domestic market and international market and their empirical studies suggest that there is herding at all three levels of market. Result also shows that in most Asian market herding in more intense within industry level than within domestic market level. While testing industry herding in different market condition they found herding is more prominent in

down market and it also significant when market trading volume is relatively low. Herding during crisis gave mixed result in Asian market. While doing portfolio analysis they found that herding is stronger in high and low market value industries but weaker for mid-size industries.

BenMabrouk, (2018) investigated the herding in New York stock market and crude oil market during normal and crisis period. They also investigated cross herding in both market to explore the possible integration. The result suggested that there is no herding during normal period in stock market as well as in crude oil market. However during crisis time herding behaviour become less significant when volatility is high. Although during financial distress, market volatility enhance herding behaviour but that time sentiment index has no effect on herding. Finally they found that during crisis investors increase crude oil market herding and reduce stock market herding.

Demirer & Zhang, (2018) found significant relationship between the level of industrial herding and their past performance especially during market crisis with loser industry. They found that loser industries which have high level of herding significantly outperform loser industries which have low level of herding. However in case of winner industries they found that high degree herding industries underperform low degree herding industries in short holding period. Further they found that herding-based industry momentum strategy outperforms the conventional industry momentum strategy, even during market crisis herding based industry momentum strategy generate significant return as compare to conventional industry momentum strategy so they suggested that investors must avoid high degree herding industry during market crisis.

Chaffai & Medhioub, (2018) examined the presence of herding in five country of Islamic gulf cooperation council. To find the evidence of herding they used Chiang and Zheng (2010) model and divided data into up and down markets, and evidence suggest that herding is significant only during up market period. There is no herding during down market period. So in Islamic market where profit is high, investor herd to gain that profit.

Wang & Huang, (2019) tried to find out whether information asymmetry & transparency affect herding behaviour in Taiwanese stock market. For that purpose they divided empirical period into two part 1993-2002 and 2005-2014 before and after implementation of information Disclosure and Transparency Ranking System (IDTRs). The empirical result shows that herding is present before and after implementation of IDTRs but also IDTRs strongly discourage herding in Taiwan. They also divided data into two group based on annual report of IDTRs, high and low transparency group, and result reveal that high transparency group have less herding than low transparency group so high transparency discourage investors in herding.

The review of the existing literature suggests that most of studies have examined market wide herding. Only a few studies have examined herding at the sector or industry level. In addition, studies which examined herding in the banking sector are rare. The present study is an attempt to fill this gap to some extent.

Research Methodology

Data

To investigate the existence of herding behaviour in banking sector the present study has used daily data from January 1, 2007 to December 31, 2018. The data is collected from National Stock Exchange of India Ltd (NSE) which is one of the leading stock exchanges of the world. The NSE provides three banking sector indices i.e. Nifty bank index, Nifty PSU bank index and Nifty private bank index which comprises 12, 12 and 10 stocks respectively.

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The cross-sectional standard deviation (CSSD) and the cross-sectional absolute deviation (CSAD) of returns method

To examine the herding in Indian banking sector, we employ CSSD proposed by Christie & Huang, (1995). CSSD is simply the return dispersion i.e., standard deviation of group of stocks under consideration. To measure the return dispersion Christie & Huang, (1995) employed the following specification:

$$CSSD_i = \sqrt{\frac{\sum_{i=1}^{N}\left(R_{i,t} - R_{m,t}\right)^2}{(N-1)}} \quad (1)$$

Where,

$R_{i,t}$ is the observed daily return for ith firm at time t.

$R_{m,t}$, is the cross-sectional average of N stock returns in the portfolio at time t.

Christie & Huang, (1995) argued that herding is mostly prevalent in the times of extreme price movement. Therefore, to examine the herding behaviour in different extreme market conditions, they suggested the following specification:

$$CSSD_t = \alpha + \beta_1 D_t^L + \beta_2 D_t^U + \varepsilon_t \quad (2)$$

Where,

D_t^L = 1, if the market return for time period t lies in the lower tail of the returns distribution, and zero otherwise.

D_t^U = 1, if the market return for time period t lies in the upper tail of the returns distribution, and zero otherwise.

Because investors mimic other investors, $CSSD_t$ will become smaller during period of extreme market stress. Therefore, statistically significant and negative value of the coefficients will be an indication of the existence of herding.

Chang, Cheng, & Khorana, (2000) developed an alternative model in spirit of the model of Christie & Huang, (1995). They replaced CSSD with CSAD which is define as follows:

$$CSAD_t = \frac{1}{N}\sum_{i=1}^{N|}\left|R_{i,t} - R_{m,t}\right| \quad (3)$$

Where,

$R_{i,t}$ is the return of stock i at time t.

$R_{m,t}$ is the cross-sectional average returns of N stocks in the portfolio at time t.

Chang et al (2000) assert that if markets are efficient, then the 'return dispersion'-- 'market returns' relationship is linear. However, during periods of relatively large price movement, the linear relationship becomes non-linear increasing or even decreasing if herding exists. Hence, Chang et al. (2000) add the quadratic term of $R_{m,t}$ to the regression model to measure the non- linearity as follows:

$$CSAD_t = \gamma_0 + \gamma_1\left|R_{m,t}\right| + \gamma_2 R_{m,t}^2 + \varepsilon_t \quad (4)$$

The relationship between $CSAD_t$ and $R_{m,t}^2$ helps in recognizing herding. Thus, a negative and statistically significant γ_2 implies the decrease of return dispersion from market returns which indicates the presence of herding.

If herding exists during different extreme market movements, the relationship between CSSD and market return can also be nonlinear (Huang, Lin, & Yang, 2015). Therefore, this paper also employs the following supplementary regression models:

$$CSAD_t = \alpha + \beta_1 D_t^L + \beta_2 D_t^U + \varepsilon_t \quad (5)$$

$$CSSD_t = \gamma_0 + \gamma_1\left|R_{m,t}\right| + \gamma_2 R_{m,t}^2 + \varepsilon_t \quad (6)$$

In total, the present study investigates herding by employing six different specifications based on CH and CCK models. These six specifications are also used by (Vinh, Bao, & Phan, 2019).

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Model 1

$$CSSD_t = \alpha + \beta_1 D_t^L + \beta_2 D_t^U + \varepsilon_t$$

Model 2

$$CSAD_t = \gamma_0 + \gamma_1 |R_{m,t}| + \gamma_2 R_{m,t}^2 + \varepsilon_t$$

Model 3

$$CSAD_{i,t}^{DOWN} = \gamma_0 + \gamma_1^{DOWN} |R_{m,t}^{DOWN}| + \gamma_2^{DOWN} \left(R_{m,t}^{DOWN}\right)^2 + \varepsilon_t$$

Model 4

$$CSAD_{i,t}^{UP} = \gamma_0 + \gamma_1^{UP} |R_{m,t}^{UP}| + \gamma_2^{UP} \left(R_{m,t}^{UP}\right)^2 + \varepsilon_t$$

Model 5

$$CSSD_{i,t} = \gamma_0 + \gamma_1 |R_{m,t}| + \gamma_2 R_{m,t}^2 + \varepsilon_t$$

Model 6

$$CSAD_{i,t} = \alpha + \beta_1 D_t^L + \beta_2 D_t^U + \varepsilon_t$$

Analysis and interpretation of result

To analyze the herding behaviour among investors in Indian banking sector we took data from NIFTY Sectoral Index. The NIFTY Sectoral index divide into NIFTY Bank, NIFTY PSU Bank and NIFTY Private Bank index. The result presented in the tables below.

Table 1: Nifty Bank

	$CSSD_t$		$CSAD_t$	$CSAD_{i,t}^{DOWN}$	$CSAD_{i,t}^{UP}$	$CSSD_{i,t}$	$CSAD_{i,t}$	
	D_t^L	D_t^U	$R_{m,t}^2$	$\left(R_{m,t}^{DOWN}\right)^2$	$\left(R_{m,t}^{UP}\right)^2$	$R_{m,t}^2$	D_t^L	D_t^U
2007	0.0562	0.3927	-0.0014	-0.0170	-0.0397	-0.0041	0.2651	0.6328
P-Val	0.6804	0.0043	0.9218	0.7174	0.1473	0.8462	0.1163	0.0002
2008	0.5344	0.5324	0.0104	-0.0173	0.0189	0.0155	1.1474	0.6122
P-Val	0.0004	0.0005	0.0731	0.3255	0.3384	0.0377	0.0000	0.0028
2009	1.7940	1.9946	0.0925	0.2690	0.0867	0.1678	4.2667	4.6165
P-Val	0.0680	0.0426	0.0000	0.0000	0.0088	0.0000	0.0000	0.0000
2010	0.0774	0.2898	0.0050	-0.0369	0.0167	0.0042	0.1444	0.2539
P-Val	0.2382	0.0000	0.8388	0.5728	0.8649	0.8965	0.1245	0.0072
2011	0.1301	0.0228	0.0135	-0.0653	0.0090	0.0188	0.1816	0.1889
P-Val	0.0764	0.7558	0.4783	0.3591	0.8350	0.4485	0.0767	0.0656
2012	0.1155	0.2677	0.0215	0.0368	0.0473	0.0393	0.1299	0.3918
P-Val	0.0870	0.0001	0.1624	0.2728	0.2846	0.0476	0.1717	0.0000
2013	0.2480	0.3291	0.0141	0.0195	0.0245	0.0237	0.6465	0.4819
P-Val	0.0204	0.0022	0.0343	0.4369	0.0873	0.0079	0.0000	0.0007
2014	0.1084	0.3686	-0.0037	0.1041	-0.0332	-0.0016	0.2328	0.3968
P-Val	0.1221	0.0000	0.8068	0.0106	0.5097	0.9359	0.0172	0.0001
2015	0.2776	0.4321	-0.0055	0.0002	0.0424	-0.0115	0.3340	0.6079
P-Val	0.0072	0.0000	0.6186	0.9880	0.5909	0.4688	0.0112	0.0000
2016	0.4589	0.3376	0.0488	0.0866	0.1285	0.0763	0.5395	0.6339
P-Val	0.0000	0.0022	0.0117	0.2710	0.0045	0.0041	0.0002	0.0000
2017	0.2333	0.5385	0.2430	0.0683	0.3081	0.2811	0.4221	1.2762
P-Val	0.1601	0.0013	0.0000	0.7616	0.0000	0.0000	0.0786	0.0000
2018	0.6627	0.4588	0.1102	0.0983	0.0185	0.2345	1.1218	0.7501
P-Val	0.0000	0.0016	0.0000	0.0883	0.8552	0.0000	0.0000	0.0000

Table 1 shows the results of six different model for detecting herding, explained in methodology section. This table presents the results for bank stocks which constitute Nifty bank index. The results indicate there is no evidence of herding in banking sector of India using any of the six model of herding.

Table 2: Result of Nifty PSU Bank

	$CSSD_t$		$CSAD_t$	$CSAD_{i,t}^{DOWN}$	$CSAD_{i,t}^{UP}$	$CSSD_{i,t}$	$CSAD_{i,t}$	
	D_t^L	D_t^U	$R_{m,t}^2$	$\left(R_{m,t}^{DOWN}\right)^2$	$\left(R_{m,t}^{UP}\right)^2$	$R_{m,t}^2$	D_t^L	D_t^U
2007	0.1527	0.3592	0.0156	-0.0383	0.0249	0.0239	0.4588	0.4804
P-Val	0.1602	0.0011	0.1050	0.0832	0.3624	0.0565	0.0021	0.0013
2008	0.4949	0.4637	-0.0051	-0.0166	0.0370	-0.0016	0.7515	0.7527
P-Val	0.0001	0.0003	0.3840	0.2778	0.1619	0.8256	0.0000	0.0000
2009	0.5002	0.5789	-0.0075	-0.0618	-0.0178	-0.0033	0.8141	0.8113
P-Val	0.0000	0.0000	0.0864	0.0158	0.0364	0.5890	0.0000	0.0000
2010	0.1922	0.3876	0.0000	0.0153	-0.1807	-0.0057	0.4353	0.2059
P-Val	0.0226	0.0000	0.9986	0.8022	0.1884	0.8716	0.0001	0.0666
2011	0.2825	0.1234	0.0034	-0.0411	0.0606	0.0041	0.2191	0.1402
P-Val	0.0002	0.1049	0.8414	0.4433	0.3247	0.8540	0.0403	0.1882
2012	0.1930	0.2935	0.0124	-0.0022	0.0467	0.0160	0.4190	0.3156
P-Val	0.0119	0.0001	0.2182	0.9080	0.0963	0.2305	0.0001	0.0029
2013	0.4757	0.5245	0.0138	0.0365	0.0021	0.0188	0.7979	0.8533
P-Val	0.0000	0.0000	0.0228	0.2642	0.8899	0.0198	0.0000	0.0000
2014	0.3372	0.4673	0.0186	0.0099	0.0207	0.0278	0.6068	0.8673
P-Val	0.0007	0.0000	0.0225	0.8126	0.2339	0.0185	0.0000	0.0000
2015	0.4658	0.4096	0.0055	-0.0089	0.0550	0.0107	1.0029	0.9683
P-Val	0.0001	0.0006	0.2602	0.2428	0.0133	0.1754	0.0000	0.0000
2016	0.5546	0.8798	-0.0006	0.0707	-0.0145	0.0077	0.7459	0.9672
P-Val	0.0000	0.0000	0.9300	0.0095	0.3753	0.4633	0.0000	0.0000
2017	0.6135	0.6122	-0.0038	0.3549	0.0024	-0.0101	1.3118	0.9126
P-Val	0.0078	0.0080	0.1023	0.0000	0.3485	0.0221	0.0000	0.0001
2018	0.6090	0.2209	0.0141	0.0891	-0.0124	0.0233	1.0820	0.6016
P-Val	0.0000	0.0718	0.1240	0.0209	0.3995	0.1145	0.0000	0.0000

Table 2 displays the estimates of the six model for detecting herding. This table presents the results for bank stocks which constitute Nifty PSU Bank index. It can be seen from table 2 that the coefficients of D_t^L and D_t^U are positive for every year. This suggests that there is no herding during extreme price movements in Indian banking sector during 2007 to 2018. However, there is evidence of herding in 2009 as per CCK model during normal, up and down markets (Models 2, 3 and 4). The results of Model 5 also indicate evidence of herding in 2009 and 2017.

Table 3: Nifty Private Bank

	$CSSD_t$		$CSAD_t$	$CSAD_{i,t}^{DOWN}$	$CSAD_{i,t}^{UP}$	$CSSD_{i,t}$	$CSAD_{i,t}$	
	D_t^L	D_t^U	$R_{m,t}^2$	$\left(R_{m,t}^{DOWN}\right)^2$	$\left(R_{m,t}^{UP}\right)^2$	$R_{m,t}^2$	D_t^L	D_t^U
2007	-0.2448	0.5856	0.0040	0.0414	-0.0524	0.0035	0.2812	0.7886
P-Val	0.1395	0.0005	0.8332	0.2551	0.2175	0.8962	0.1999	0.0004
2008	0.5488	0.6223	0.0179	0.0113	0.0143	0.0200	1.1293	0.6775
P-Val	0.0019	0.0004	0.0012	0.4964	0.4422	0.0046	0.0000	0.0059
2009	1.8054	2.2977	0.0944	0.1597	0.1295	0.1559	5.3620	5.4949
P-Val	0.1007	0.0371	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2010	0.1302	0.2073	0.0006	0.0436	-0.0014	0.0026	0.2096	0.1915
P-Val	0.1683	0.0287	0.9817	0.5103	0.9851	0.9421	0.0971	0.1294
2011	0.1884	0.1822	-0.0054	-0.0564	0.0154	0.0070	0.2527	0.2925
P-Val	0.0344	0.0407	0.7590	0.5521	0.8043	0.7737	0.0313	0.0128
2012	0.0988	0.3046	0.0201	0.0853	-0.0468	0.0312	0.1518	0.5251
P-Val	0.1526	0.0000	0.2027	0.0257	0.3116	0.1237	0.1171	0.0000
2013	0.2664	0.3760	0.0176	0.0151	0.0293	0.0240	0.5976	0.3602
P-Val	0.0156	0.0007	0.0057	0.5249	0.0202	0.0051	0.0001	0.0146
2014	-0.0145	0.1612	0.0157	0.0104	-0.0306	0.0336	0.1703	0.4843
P-Val	0.8536	0.0416	0.3720	0.8248	0.4847	0.1614	0.0946	0.0000
2015	0.3867	0.2841	0.0016	-0.0086	0.0048	-0.0056	0.3886	0.5454
P-Val	0.0009	0.0137	0.8947	0.7880	0.8724	0.7619	0.0045	0.0001
2016	0.2966	0.2783	0.0330	0.0923	0.0961	0.0504	0.3623	0.3717
P-Val	0.0029	0.0052	0.1077	0.0255	0.1730	0.0780	0.0055	0.0044
2017	0.1974	0.3861	-0.0663	-0.1531	-0.2913	-0.1512	0.2604	0.5602
P-Val	0.0548	0.0002	0.2762	0.5718	0.0695	0.0875	0.0426	0.0000
2018	0.4827	0.4543	0.1182	0.1493	-0.0763	0.2381	1.0191	0.3684
P-Val	0.0013	0.0025	0.0000	0.0065	0.5337	0.0000	0.0000	0.0273

Table 3 shows year wise analysis of herding in private bank from 2007 to 2018. Analysis of the result indicates that there is no evidence of herding in stocks of private banks using any of the six models.

Conclusion

Researchers in psychology and behavioral economics have shown that investors across financial markets do not act rationally and suffer from various behavioral biases (Kumar & Lee, 2006; Baker & Wurgler, 2007; Barnea, Cronqvist & Seigel, 2010; Chandra & Kumar, 2010). Herding is one of the prominent behavioral biases influencing investment decisions. The present study examined the existence of herding behaviour in the Indian banking sector stocks. The timespan of the study is from 2007 to 2018. Using various specifications

of CH and CCK models, we found that there is no evidence of herding in Nifty bank indexed and Nifty private bank indexed stocks. However, for Nifty PSU bank indexed stocks we found evidence of herding in 2009 only. One of the reasons for herding in 2009 may be that in 2009 the global financial markets were recovering from the financial crisis of 2007-08. Besides, the absence of herding during other times may be due to the confidence among investors about the government policy about Indian banks. Some banks like SBI, ICICI and HDFC are declared by the government as "domestic systemically important banks" which means these banks are "too big to fail". Therefore, investors do not herd in this sector. Thus, it can be concluded that Indian banking sector as far as herding is concerned. Indian banking sector is more or less efficient and investors don't herd in this sector.

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ISSUES ADVANCES IN REMOTE SENSING IMAGE SYSTEM IN IMAGE PROCESSING

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ABSTRACT

Remote sensing image processing is nowadays a mature research area. The techniques developed in the field allow many real-life applications with great societal value. For instance, urban monitoring, fire detection or flood prediction can have a great impact on economical and environmental issues. To attain such objectives, the remote sensing community has turned into a multidisciplinary field of science that embraces physics, signal theory, computer science, electronics, and communications. From a machine learning and signal/image processing point of view, all the applications are tackled under specific formalisms, such as classification and clustering, regression and function approximation, image coding, restoration and enhancement, source unmixing, data fusion or feature selection and extraction. This paper serves as a survey of methods and applications, and reviews the last methodological advances in remote sensing image processing.The latest-generation earth observation instruments on airborne and satellite platforms are currently producing an almost continuous high-dimensional data stream. This exponentially growing data poses a new challenge for real-time image processing and recognition. Therefore, real-time image data processing on satellites plays a great important role in the field of space applications. In the past, due to the technical limitations, image processing systems on satellite can only process real-time signals with low data rates and low storage requirements, while image processing for massive data is difficult to achieve. In recent years, with the development of technologies such as the new Aerospace Digital Signal Processor (DSP) and large-scale anti-radiation field programmable gate array (FPGA), the real-time image data processing on satellites has sufficient technical conditions.Real-time image data processing on satellites replaces the traditional way that data processing is completed after the original data transfer to the ground system. The main advantages are: (1) It is not necessary to compress and transmit the original image data collected by the sensor, which can provide higher precision raw data to the processor. (2) Image processing on satellites can effectively reduce the communication overhead between satellite and ground equipment. (3) Image processing on satellites can reduce the overhead of ground data processing equipment. (4) Image processing on satellites, and the result can be obtained in real-time, so that the astronauts can respond faster to the target operation.Real-time image data processing on satellites has its limitations. It requires spacecraft to provide enough space for image processing equipment and also makes partial power consumption. However, due to the continuous development of image processing technology, the impact of these shortcomings is gradually reduced. It is believed that the benefits of image processing on satellites will overcome its limitations, and the real-time image processing system will become an important and complete component of the spacecraft.

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INTRODUCTION

The statistical characterization of remote sensing images turns out to be more difficult than in grayscale natural images because of the pixel's higher dimensionality, particular noise and uncertainty sources, the high spatial and spectral redundancy, and their inherently nonlinear nature. It is worth noting that all these problems can be addressed in different ways depending on the sensor and the acquisition process. Consequently, the methods for the analysis and processing of remote sensing images need to be carefully designed attending to these needs. Different problems are posed from a signal processing and machine learning point of view: the acquired signals have to be processed in a timely manner, transmitted, further corrected from different distortions, eventually compressed, and ultimately analyzed to extract valuable information from them with, for instance, advanced classification or regression methods. Recently, new learning paradigms have been introduced and the latest advances in signal and image processing tools have been incorporated to the current toolbox of the remote sensing data users.

Different problems are posed from a signal processing and machine learning point of view: the acquired signals have to be processed in a timely manner, transmitted, further corrected from different distortions, eventually compressed, and ultimately analyzed to extract valuable information from them with, for instance, advanced classification or regression methods. Recently, new learning paradigms have been intro-duced and the latest advances in signal and image processing tools have been incorporated to the current toolbox of the remote sensing data users.It is a great pleasure for us to introduce this special issue on remote sensing image and signal processing. The goal is to summarize the recent advances in the field in a comprehensive manner, but also we would like it to promote the cross-fertiliza-tion between the remote sensing and the signal processing com-munities, which we foresee it as increasingly necessary. The re-sponse to the call for papers for this special issue was extraor-dinary, and finally 22 papers have been accepted for publica-tion. They cover the most relevant steps of the remote sensing data processing chain: image coding, feature extraction and se-lection, advances in optical and radar signal processing, sparse signal analysis, image denoising, signal unmixing, image fu-sion, target detection, and data classification. The issue contains contributions in all steps of the chain; see Fig

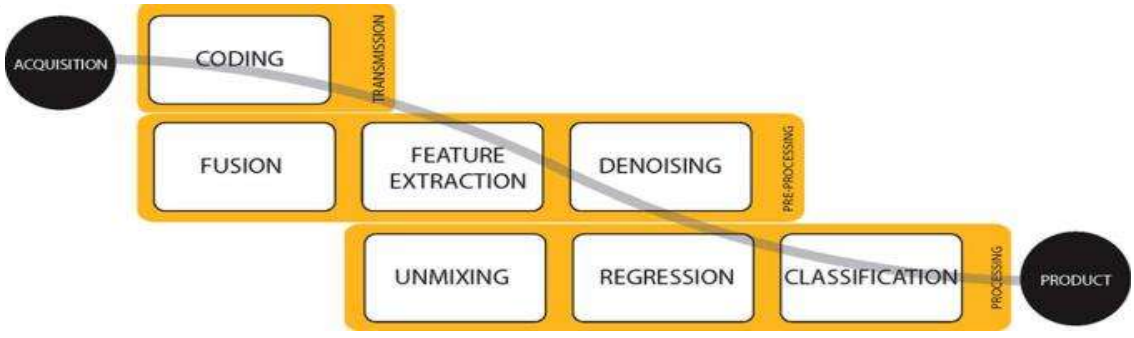

Fig. Remote sensing image analysis chain.

IMAGE AND SIGNAL PROCESSING

Analyzing the particular characteristics of the remote sensing data is a very active research field. While optical image pro-cessing exploits most of the tools of grayscale and color image processing methods generalized to the mulispectral case, in the case of active radar imagery, the acquired signals must be processed with methods that exploit the

specific statistical properties of the data. In the paper "On the Empirical-Sta-tistical Modeling of SAR Images with Generalized Gamma Distribution" by Li *et al.*, an efficient statistical model based on the generalized Gamma distribution is proposed to characterize synthetic aperture radar (SAR) images. This model of the prob-ability density functions (pdfs) is computationally efficient, and thus the proposed method is very convenient for online SAR image processing. In the work "Displacement Estimation by Maximum Likelihood Texture Tracking" by Harant *et al.*, a novel method is presented to estimate displacement by max-imum-likelihood (ML) texture tracking. The work is motivated by the fact that with the new generation of launched PolSAR sensors, the Earth's surface is imaged with meter resolution. This property enables identifying very small spatial features from the space so texture analysis and statistical modeling is becoming more and more important to develop tracking methods from these data.

Identifying distinct image features in radar data and hyper-spectral images is crucial for many applications. The field of sparse signal processing has emerged in the last years, and two relevant works within this context are presented in this issue. In the last years, we observed an increasing interest in 3-D recon-struction of scenes from radar measurements. Traditional 3-D SAR image formation requires data collection over a densely sampled azimuth-elevation sector, which is very difficult or even impossible in practice. The work "Sparse Signal Methods for 3-D Radar Imaging" by Austin *et al.* proposes models for 3-D reconstruction that exploit reconstruction sparsity to tackle the limitations of sparse measurements. On the other hand, the paper "Sparse matrix transform for hyperspectral image processing" by Theiler *et al.* studies the important issue of es-timating the data covariance matrix in poorly-sampled spaces. The authors analyze a particular estimator, named sparse matrix transform, in several problems: detection, dimension reduction, anomaly detection, and anomalous change detection. Following an alternative approach, the paper "Statistical inference in PCA for hyperspectral images" by Bajorski studies the sampling properties of the covariance matrix of hyperspectral images in terms of sampling, noise, and variability. Confidence intervals for the estimation of the eigenvalue problem are also given.

FUSION AND PANSHARPENING

Spatial resolution of sensors is often limited with respect to their spectral resolution. Multi- or hyperspectral sensors give a unique amount of spectral information, but they often lack the spatial detail necessary for the application. On the contrary, panchromatic sensors provide information with higher level of spatial detail, but lack spectral information. Since the design of a high-resolution sensor in both spectral and spatial domains would be extremely costly and challenging in terms of engi-neering, image fusion methods are often employed to create an image taking advantage of both panchromatic and multi- or hyperspectral sensors. The work "A Theoretical Analysis of the Effects of Aliasing and Misregistration on Pansharpened Im-agery" by Baronti *et al.* pays attention to the issues of aliasing and misregistration errors in multiresolution fusion algorithms. Several methods are analyzed and interesting conclusions drawn: under mild assumptions, aliasing and/or misregistration do not greatly affect fusion products, especially in terms of spatial quality.

FEATURE SELECTION AND EXTRACTION

When dealing with high-dimensional datasets, such as hyper-spectral images, the computational time of the data analysis is increased and the high collinearity and presence of noisy bands can degrade the quality of the model. Feature selection and ex-traction are central issues in these situations because of the curse of dimensionality. In the paper

"Optimal Feature Set for Au-tomatic Detection and Classification of Underwater Objects in SAS Images" by Fandos and Zoubir, the problem of automatic detection and classification for mine hunting applications is ad-dressed with special focus on the extraction of relevant discrim-inative features: from shape and shadow descriptors to accurate image statistics.

IMAGE RESTORATION AND ENHANCEMENT

Image restoration is an important step in the image processing chain. Several problems are encountered in this application: different noise sources and amounts are present in the data and scattered either in the spatial or specific spectral bands. This makes necessary appropriate spatial–spectral image restoration and enhancement steps. The paper "Local Signal-Dependent Noise Variance Estimation From Hyperspectral Textural Im-ages" by Uss *et al.* presents a maximum-likelihood method for estimating hyperspectral sensors random noise components, both dependent and independent from the signal. The main advantage of the proposed method is its ability to accurately estimate band noise variances locally by using spatial and spectral texture correlations. Locality of the method tries to accommodate nonlinear signal–noise relations. Alternative approaches consider the use of nonlinear methods, as in the paper "Noise Reduction of Hyperspectral Images Using Kernel Nonnegative Tucker Decomposition" by Karami *et al.*, where a new noise reduction algorithm based on kernels and ge-netic algorithms is proposed. Finally, the paper "Suppressing Moving Target Artifacts in Multi-Channel Stripmap SAR Images by Space-Doppler Filtering" by Schulz proposes a joint spatial-spectral processing to suppress echoes from moving targets in multi-channel strip-map SAR data while preserving the echoes of the fixed scene.

SPECTRAL UNMIXING

The issue of finding the remote sensing image basis is a cen-tral research topic. Hence, the development of automatic extrac-tion of spectral endmembers directly from the input hyperspec-tral data set has captured the attention of researchers. When pure pixels are identified in the image, all pixels can be syn-thesized as a linear (or nonlinear) combination of them, and this, in turn, allows for example subpixel detection or mapping. Some classic techniques for this purpose include vertex com-ponent algorithms and orthogonal subspace projections among others. The paper "Maximum Orthogonal Subspace Projection Approach to Estimating the Number of Spectral Signal Sources in Hyperspectral Imagery" by Chang *et al.* tackles the relevant problem of estimating the number of sources present in the data. A new method is evaluated and theoretically related to previous works. Lately, the problem of including spatial information in the unmixing process, and the study of nonlinear unmixing have attracted the attention of researchers. These shortcomings are also addressed in this issue. In the work "Spectral Unmixing for the Classification of Hyperspectral Images at a Finer Spa-tial Resolution" by Villa *et al.*, the problem of classification of hyperspectral images containing mixed pixels is addressed. The method exploits the advantages of both soft classification tech-niques and spectral unmixing algorithms in order to determine the fractional abundances of the classes at a sub-pixel scale. A spatial regularization by Simulated Annealing is finally per-formed to spatially locate the obtained classes. On the other hand, the nonlinear issue is addressed in "Nonlinear spectral un-mixing by geodesic simplex volume maximization" by Heylen *et al.*. The paper presents an unmixing algorithm that can de-termine endmembers and their abundances in hyperspectral im-agery under nonlinear mixing assumptions. The algorithm ac-counts for the nontrivial geometry of the data manifold in an efficient way.

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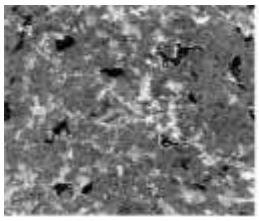
MULTISPECTRAL REMOTE SENSING

In the visual interpretation of remotely sensed images, a variety of image characteristics are brought into consideration: color (or tone in the case of panchromatic images), texture, size, shape, pattern, context, and the like. However, with com-puter-assisted interpretation, it is most often simply color (i.e., the spectral response pattern) that is used. It is for this rea-son that a strong emphasis is placed on the use of multispectral sensors (sensors that, like the eye, look at more than one place in the spectrum and thus are able to gauge spectral response patterns), and the number and specific placement of these spectral *bands.*

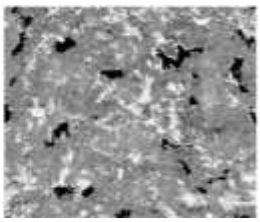
Figure illustrates the spectral bands of the LANDSAT Thematic Mapper (TM) system. The LANDSAT satellite is a commercial system providing multi-spectral imagery in seven spectral bands at a 30 meter resolution.

It can be shown through analytical techniques such as Principal Components Analysis, that in many environments, the bands that carry the greatest amount of information about the natural environment are the near-infrared and red wave-length bands. Water is strongly absorbed by infrared wavelengths and is thus highly distinctive in that region. In addition, plant species typically show their greatest differentiation here. The red area is also very important because it is the primary region in which chlorophyll absorbs energy for photosynthesis. Thus it is this band which can most readily distinguish between vegetated and non-vegetated surfaces.

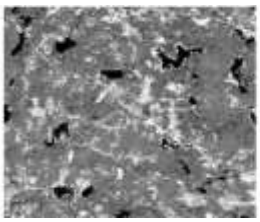
Given this importance of the red and near-infrared bands, it is not surprising that sensor systems designed for earth resource monitoring will invariably include these in any particular multispectral system. Other bands will depend upon the range of applications envisioned. Many include the green visible band since it can be used, along with the other two, to produce a traditional false color composite—a full color image derived from the green, red, and infrared bands (as opposed to the blue, green, and red bands of natural color images). This format became common with the advent of color infrared photography, and is familiar to many specialists in the remote sensing field. In addition, the combination of these three bands works well in the interpretation of the cultural landscape as well as natural and vegetated surfaces. However, it is increasingly common to include other bands that are more specifically targeted to the differentiation of surface mate-rials. For example, LANDSAT TM Band 5 is placed between two water absorption bands and has thus proven very useful in determining soil and leaf moisture differences. Similarly, LANDSAT TM Band 7 targets the detection of hydrothermal alteration zones in bare rock surfaces. By contrast, the AVHRR system on the NOAA series satellites includes several thermal channels for the sensing of cloud temperature characteristics.



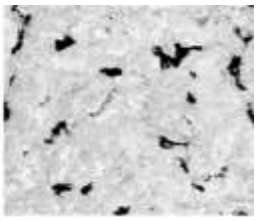
Band 1, visible blue



Band 2, visible green



Band 3, visible red



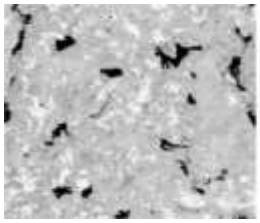
Band 4, near-infrared

0.45-0.52 mm

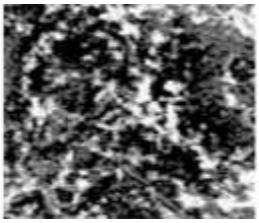
0.52-0.60 mm

0.63-0.69 mm

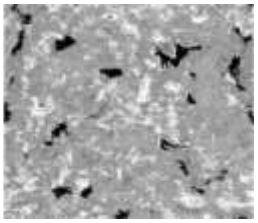
0.76-0.90 mm



Band 5, middle-infrared



Band 6, thermal infrared



Band 7, middle-infrared

1.55-1.75 mm

10.4-12.5 mm

2.08-2.35 mm

HYPERSPECTRAL REMOTE SENSING

In addition to traditional multispectral imagery, some new and experimental systems such as AVIRIS and MODIS are capable of capturing *hyperspectral* data. These systems cover a similar wavelength range to multispectral systems, but in much narrower bands. This dramatically increases the number of bands (and thus precision) available for image classifica-tion (typically tens and even hundreds of very narrow bands). Moreover, hyperspectral signature libraries have been cre-ated in lab conditions and contain hundreds of signatures for different types of landcovers, including many minerals and other earth materials. Thus, it should be possible to match signatures to surface materials with great precision. However, environmental conditions and natural variations in materials (which make them different from standard library materials) make this difficult. In addition, classification procedures have not been developed for hyperspectral data to the degree they have been for multispectral imagery. As a consequence, multispectral imagery still represents the major tool of remote sensing today.

SENSOR/PLATFORM SYSTEMS

Given recent developments in sensors, a variety of platforms are now available for the capture of remotely sensed data.Here we review some of the major sensor/platform combinations that are typically available to the GIS user community

AERIAL PHOTOGRAPHY

Aerial photography is the oldest and most widely used method of remote sensing. Cameras mounted in light aircraft flying between 200 and 15,000 m capture a large quantity of detailed information. Aerial photos provide an instant visual inven-tory of a portion of the earth's surface and can be used to create detailed maps. Aerial photographs commonly are taken by commercial aerial photography firms which own and operate specially modified aircraft equipped with large format (23 cm x 23 cm) mapping quality cameras. Aerial photos can also be taken using small format cameras (35 mm and 70 mm), hand-held or mounted in unmodified light aircraft.

Camera and platform configurations can be grouped in terms of oblique and vertical. Oblique aerial photography is taken at an angle to the ground. The resulting images give a view as if the observer is looking out an airplane window. These images are easier to interpret than vertical photographs, but it is difficult to locate and measure features on them for map-ping purposes.

Vertical aerial photography is taken with the camera pointed straight down. The resulting images depict ground features in plan form and are easily compared with maps. Vertical aerial photos are always highly desirable, but are particularly use-ful for resource surveys in areas where no maps are available. Aerial photos depict features such as field patterns and veg-etation which are often omitted on maps. Comparison of old and new aerial photos can also capture changes within an area over time.

Vertical aerial photos contain subtle displacements due to relief, tip and tilt of the aircraft and lens distortion. Vertical images may be taken with overlap, typically about 60 percent along the flight line and at least 20 percent between lines. Overlapping images can be viewed with a stereoscope to create a three-dimensional view, called a *stereo model*.

LARGE FORMAT PHOTOGRAPHY

Commercial aerial survey firms use light single or twin engine aircraft equipped with large-format mapping cameras. Large-format cameras, such as the Wild RC-10, use 23 cm

x 23 cm film which is available in rolls. Eastman Kodak, Inc., among others, manufactures several varieties of sheet film specifically intended for use in aerial photography. Negative film is used where prints are the desired product, while positive film is used where transparencies are desired. Print film allows for detailed enlargements to be made, such as large wall-sized prints. In addition, print film is useful when multiple prints are to be distributed and used in the field.

SMALL FORMAT PHOTOGRAPHY

Small-format cameras carried in chartered aircraft are an inexpensive alternative to large-format aerial photography. A 35mm or 70mm camera, light aircraft and pilot are required, along with some means to process the film. Because there are inexpensive commercial processing labs in most parts of the world, 35mm systems are especially convenient.

Oblique photographs can be taken with a hand-held camera in any light aircraft; vertical photographs require some form of special mount, pointed through a belly port or extended out a door or window.Small-format aerial photography has several drawbacks. Light unpressurized aircraft are typically limited to altitudes below 4000 m. As film size is small, sacrifices must be made in resolution or area covered per frame. Because of distor-tions in the camera system, small-format photography cannot be used if precise mapping is required. In addition, presen-tation-quality wall-size prints cannot be made from small negatives. Nonetheless, small-format photography can be very useful for reconnaissance surveys and can also be used as point samples.

COLOR PHOTOGRAPHY

Normal color photographs are produced from a composite of three film layers with intervening filters that act to isolate, in effect, red, green, and blue wavelengths separately to the different film layers. With color infrared film, these wave-lengths are shifted to the longer wavelengths to produce a composite that has isolated reflectances from the green, red and near-infrared wavelength regions. However, because the human eye cannot see infrared, a false color composite is produced by making the green wavelengths appear blue, the red wavelengths appear green, and the infrared wavelengths appear red.

As an alternative to the use of color film, it is also possible to group several cameras on a single aircraft mount, each with black and white film and a filter designed to isolate a specific wavelength range. The advantage of this arrangement is that the bands are independently accessible and can be photographically enhanced. If a color composite is desired, it is possi-ble to create it from the individual bands at a later time.

Clearly, photographs are not in a format that can immediately be used in digital analysis. It is possible to scan photographs with a scanner and thereby create multispectral datasets either by scanning individual band images, or by scanning a color image and separating the bands. However, the geometry of aerial photographs (which have a central perspective projec-tion and differential parallax) is such that they are difficult to use directly. More typically they require processing by special photogrammetric software to rectify the images and remove differential parallax effects.

AERIAL VIDEOGRAPHY

Light, portable, inexpensive video cameras and recorders can be carried in chartered aircraft. In addition, a number of smaller aerial mapping companies offer videography as an output option. By using several cameras simultaneously, each with a filter designed to isolate a specific wavelength range, it is possible to isolate multispectral image bands that

can be used individually, or in combination in the form of a color composite. For use in digital analysis, special graphics hardware boards known as *frame grabbers* can be used to freeze any frame within a continuous video sequence and convert it to digi-tal format, usually in one of the more popular exchange formats such as TIF or TARGA. Like small-format photography, aerial videography cannot be used for detailed mapping, but provides a useful overview for reconnaissance surveys, and can be used in conjunction with ground point sampling.

CONCLUSIONS

Remotely sensed data is important to a broad range of disciplines. This will continue to be the case and will likely grow with the greater availability of data promised by an increasing number of operational systems. The availability of this data, coupled with the computer software necessary to analyze it, provides opportunities for environmental scholars and plan-ners, particularly in the areas of landuse mapping and change detection, that would have been unheard of only a few decades ago.The inherent raster structure of remotely sensed data makes it readily compatible with raster GIS. Thus, while IDRISI provides a wide suite of image processing tools, they are completely integrated with the broader set of raster GIS tools the system provides.

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GREEN MARKETING A MEANS FOR SUSTAINABLE DEVELOPMENT

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ABSTRACT :
In the modern era of globalization, it has become a challenge to keep the customers as well as consumers in fold and even keep our natural environment safe and that is the biggest need of the time. Consumers are also aware of the environmental issues like; global warming and the impact of environmental pollution. Green marketing is a phenomenon which has developed particular important in the modern market and has emerged as an important concept in India as in other parts of the developing and developed world, and is seen as an important strategy of facilitating sustainable development. In this research paper, main emphasis has been made of concept, need and importance of green marketing. Data has to be collected from multiple sources of evidence, in addition to books, journals, websites, and news papers. It explores the main issues in adoption of green marketing practices. The paper describes the current Scenario of Indian market and explores the challenges and opportunities businesses have with green marketing. Why companies are adopting it and future of green marketing and concludes that green marketing is something that will continuously grow in both practice and demand.
KEYWORDS: Environmental pollution, Green Marketing, Globalization, Global Warming, Sustainable Development.

INTRODUCTION

According to the American Marketing Association, green marketing is the marketing of products that are presumed to be environmentally safe. Thus green marketing incorporates a broad range of activities, including product modification, changes to the production process, packaging changes, as well as modifying advertising. Yet defining green marketing is not a simple task where several meanings intersect and contradict each other; an example of this will be the existence of varying social, environmental and retail definitions attached to this term. Other similar terms used are Environmental Marketing and Ecological Marketing. Thus "Green Marketing" refers to holistic marketing concept wherein the production, marketing consumption an disposal of products and services happen in a manner that is less detrimental to the environment with growing awareness about the implications of global warming, nonbiodegradable solid waste, harmful impact of pollutants etc., both marketers and consumers are becoming increasingly sensitive to the need for switch in to green products and services. While the shift to "green" may appear to be expensive in the short term, it will definitely prove to be indispensable and advantageous, cost-wise too, in the long run.

OBJECTIVES OF THE STUDY

The paper titled **—Green marketing in India :** An overview is aimed to cover the following objectives:

1. To know the concept of green marketing.
2. To identify the importance and need of green marketing.
3. To study the challenges and prospects of green marketing.

RESEARCH METHODOLOGY

The research is exploratory in nature; it focuses on Literature review, News Papers, Journals, websites and the other reliable sources.

LITERATURE REVIEW

Prothero, A. (1998) introduces several papers discussed in the July 1998 issue of 'Journal of Marketing Management' focusing on green marketing. This includes; a citation of the need to review existing literature on green marketing, an empirical study of United States and Australian marketing managers, a description of what a green alliance look like in practice in Great Britain, ecotourism and definitions of green marketing.

Oyewole, P. (2001). In his paper presents a conceptual link among green marketing, environmental justice, and industrial ecology. It argues for greater awareness of environmental justice in the practice for green marketing. A research agenda is finally suggested to determine consumers' awareness of environmental justice, and their willingness to bear the costs associated with it. Prothero, A. & Fitchett,

J.A. (2000) argue that greater ecological enlightenment can be secured through capitalism by using the characteristics of commodity culture to further progress environmental goals. Marketing not only has the potential to contribute to the establishment of more sustainable forms of society but, as a principle agent in the operation and proliferation of commodity discourse, also has a considerable responsibility to do so.

Kilbourne, W.E. (1998) discusses the failure of green marketing to move beyond the limitations of the prevailing paradigm. The author identifies areas that must be examined for their effect in the marketing/environment relationship, namely economic, political and technological dimensions of the cultural frame of reference.

Sanjay K. Jain &Gurmeet Kaur (2004) in their study environmentalism have fast emerged as a worldwide phenomenon. Business firms too have risen to the occasion and have started responding to environmental challenges by practicing green marketing strategies. Green consumerism has played a catalytic role in ushering corporate environmentalism and making business firms green marketing oriented. Based on the data collected through a field survey, the paper makes an assessment of the extent of environmental awareness, attitudes and behaviour prevalent among consumers in India.

WHAT IS GREEN MARKETING

"The marketing or promotion of a product based on its environmental performance or an improvement thereof (Charter &Polonsky 1999)"‖.

"The holistic management process responsible for identifying, anticipating and satisfying the requirements of customers and society, in a profitable and sustainable way (Peattie, 1995)"‖.

"A holistic and responsible strategic management process that identifies, anticipates, satisfies and fulfils stakeholder needs, for a reasonable reward, that does not adversely affect human or natural environmental well-being‖ (Charter (1992)".

Green or Environmental Marketing consists of all activities designed to generate and facilitate any exchanges intended to satisfy human needs or wants, such that the satisfaction of these needs and wants occurs, with minimal detrimental impact on the natural environment‖(Polonsky 1994). Therefore it ensures that the interests of the organization and all its consumers are protected, as voluntary exchange will not take place unless both the buyer and seller mutually benefit. There are two slogans like "less

environmentally harmful" and "Environmentally friendly". Thus green marketing should look at minimizing environmental harm, not necessarily eliminating it.

IMPORTANCE OF GREEN MARKETING

Green marketing offers business bottom line incentives and top line growth possibilities. While modification of business or production processes may involve start-up costs, it will save money in the long term. **For example** the cost of installing solar energy is an investment in future energy cost savings. Companies that develop new and improved products and services with environmental impacts in mind give themselves access to new markets, substantially increase profits and enjoy competitive advantages over those marketing nonenvironmentally responsible alternatives.

When looking through the literature there are several suggested reasons for firms increased use of Green Marketing. **Five possible reasons are as follows:**

1.Organizations perceives environmental marketing to be an opportunity that can be used to achieve its objectives.

2. Organizations believe they have a moral obligation to be more socially responsible.

3. Governmental bodies are forcing firms to become more responsible.

4. Competitors' environmental activities pressure firms to change their environmental marketing activities.

5. Cost factors associated with waste disposal, or reductions in material usage forces firms to modify their behavior.

THE FOUR P'S OF GREEN MARKETING

1. **Product**

   Entrepreneurs wanting to exploit emerging green market either by identifingcustomer's environmental needs or by developing environmentally responsible products to have less impact than competitors. The increasingly development of :

   1. Products that can be recycled or reused. Efficient products, which save water, energy or gasoline, save money and reduce environmental impact.
   2. Products with environmentally responsible packaging. McDonalds, for example, changed their packaging from polystyrene clamshells to paper.
   3. Products with green labels, as long as they offer substantiation.
   4. Organic products — many consumers are prepared to pay a premium for organic products, which offer promise of quality. Organic butchers, for example, promote the added qualities such as taste and tenderness.
   5. A service that rents or loans products –such as toy libraries.
   6. Certified products, which meet or exceed environmentally responsible criteria.

2. **Price**

   Pricing is a critical element of the marketing mix. Most customers are prepared to pay a premium if there is a perception of additional product value. This value may be improved performance, function, design, visual appeal or taste. Environmental benefits are usually an added bonus but will often be the deciding factor between products of equal value and quality. Environmentally responsible products, however, are often less expensive when product life cycle costs are taken into consideration, for example fuel-efficient vehicles, water-efficient printing and non-hazardous products.

3. **PLACE**

   The choice of where and when to make a product available has a significant impact on the customers being attracted. Very few customers go out of their way to buy green

products merely for the sake of it. Marketers looking to successfully introduce new green products should, in most cases, position them broadly in the market place so they are not just appealing to a small green niche market. The location must also be consistent with the image which a company wants to project. The location must differentiate a company from its competitors. This can be achieved by in-store promotions and visually appealing displays or using recycled materials to emphasize the environmental and other benefits.

4. **PROMOTION**

Promoting products and services to target markets includes paid advertising, public relations, sales promotions, direct marketing and on-site promotions. Smart green marketers will be able to reinforce environmental credibility by using sustainable marketing and communications tools and practices. For example, many companies in the financial industry are providing electronic statements by email, e-marketing is rapidly replacing more traditional marketing methods, and printed materials can be produced using recycled materials and efficient processes, such as waterless printing. Retailers, for example, are recognizing the value of alliances with other companies, environmental groups and research organizations when promoting their environmental commitment. To reduce the use of plastic bags and promote their green commitment, some retailers sell shopping bags, under the banner of the Go Green Environment Fund. The key to successful green marketing is credibility. Never overstate environmental claims or establish unrealistic expectations, and communicate simply and through sources that people trust. Promote your green credentials and achievements. Publicize stories of the company_sa environmental awards programs to profile environmental credentials to customers and stakeholders.

GOLDEN RULES OF GREEN MARKETING

1. Know your Customer: Make sure that the consumer is aware of and concerned about the issues that your product attempts to address.

2. Educating your customers: It is not just a matter of letting people know, whatever you're doing is to protect the environment, but also a matter of letting them know why it matters.

3. Being Genuine & Transparent: means that a) You are actually doing what you claim to be doing in your green marketing campaign and b) The rest of your business policies are consistent with whatever you are doing that's environment friendly.

4. Reassure the Buyer: Consumers must be made to believe that the product performs the job , in this fim should not forgot product quality in the name of the environment.

5. Consider Your Pricing: If you are charging a premium for your product and many environmentally preferable products cost more due to economies of scale and use of higher-quality ingredients make sure those consumers can afford the premium and feel it's worth it.

GREEN PRODUCTS IN INDIA

Wipro Info tech (Green It) was India's first company to launch environment friendly computer peripherals.

Samsung, was the first to launch eco friendly mobile handsets (made of renewable materials) – W510 and F268- in India.

Oil and Natural Gas Corporation Ltd. (ONGC), India's largest oil company, has introduced energyefficientMokshada Green Crematorium, which saves 60% to 70% of wood and a fourth of the burning time per cremation.

Reva, India's very-own Bangalore based company was the first in the world to commercially release an electric car. Honda India introduced its Civic Hybrid car.

ITC has introduced Paper Kraft, a premium range of eco-friendly business paper. Indusland Bank installed the country's first solar-powered ATM and thus brought about an eco-savvy change in the Indian banking sector.

Suzlon Energy manufactures and markets wind turbines, which provide an alternative source of energy based on wind power. This green initiative taken by the company is extremely important for reducing the carbon footprint.

10 WAYS TO GO GREEN

1. Unplug when not in use.
2. Use less water, every drop counts.
3. Switch to compact fluorescent light bulbs.
4. Choose products with less packaging.
5. Buy organic and local food.
6. Drive less that saves fuel.
7. Walk more.
8. Recycle more.
9. Switch to green power, use non conventional energy like solar power etc.
10. Spread the world about green, live green, stay green.

GREEN MARKETING - CHALLENGES

Although a large number of firms are practicing green marketing, it is not an easy job as there are a number of problems which need to be addressed while implementing Green marketing.

The major challenges which Green marketing have to be faced are:

1. **New Concept -** Indian literate and urban consumer is getting more aware about the merits of Green products. But it is still a new concept for the masses. The consumer needs to be educated and made aware of the environmental threats. The new green movements need to reach the masses and that will take a lot of time and effort.
2. **Cost Factor-** Green marketing involves marketing of green products/services, green technology, green power/energy for which a lot of money has to be spent on R&D programmes for their development and subsequent promotional programs which ultimately may lead to increased costs.
3. **Convincing customers-T**he customers may not believe in the firm's strategy of Green marketing, the firm therefore should ensure that they undertake all possible measures to convince the customer about their green product, the best possible option is by implementing Eco-labeling schemes. Sometimes the customers may also not be willing to pay the extra price for the products.
4. **Sustainability-** Initially the profits are very low since renewable and recyclable products and green technologies are more expensive. Green marketing will be successful only in long run. Hence the business needs to plan for long term rather than short term strategy and prepare for the same, at the same time it should avoid falling into lure of unethical practices to make profits in short term.

5. **Non Cooperation-** The firms practicing Green marketing have to strive hard in convincing the stakeholders and many a times it may fail to convince them about the long term benefits of Green marketing as compared to short term expenses.
6. **Avoiding Green Myopia-** Green marketing must satisfy two objectives: improved environmental quality and customer satisfaction. Misjudging either or overemphasizing the former at the expense of the latter can be termed green marketing myopia.

SUGGESTIONS

Green marketing is still in its infancy and a lot of research is to be done on green marketing to fully explore its potential. **There are some suggestion that an organizations should implement for catering challenges of green marketing and successful exploitation of green marketing.**

1. Consumer needs to be made more aware about the merits of Green products. The consumer needs to be educated and made aware of the environmental threats. It should be made sure that the consumer is aware of and concerned about the issues that your product attempts to address.
2. Green Marketing campaign and green advertising is good step toward it. Consumers must be motivated to switch brands or even pay a premium for the greener alternative. Make sure that consumer feel that they can make a difference. This is called ―empowerment‖ and due to this main reason consumers will buy greener products.
3. Further steps should be taken to control false promise and claim by the marketer to maintain legitimacy and trustworthiness of green products.
4. For effective and efficient implementation of this concept of Green Marketing the factor that plays a major role is the Government. Unless the government creates specific and stringent laws and utilizes its authority to implement them, the concept cannot be conceptualized. If the Consumer, the Organization and the Government work in unison towards the common goal of minimizing the detrimental environmental impact of their activities, then they can surely save this environment and make this world a better place to live in.
5. It is not enough for a company to green its products, consumers expect the products at they purchase pocket friendly and also to help reduce the environmental impact in their own lives too.
6. Green marketing is very low on the agenda of most businesses and therefore it's still an under-leveraged USP (Unique Selling Proposition). Therefore, effective green marketing targeted at the right audience will make a difference.

CONCLUSION

Green marketing is a tool for protecting the environment for future generation. It is not going to be an easy concept. The firm has to plan and then carry out research to find out how feasible it is going to be. Green marketing has to evolve since it is still at its infancy stage. Adoption of Green marketing may not be easy in the short run, but in the long run it will definitely have a positive impact on the firm. Green Marketing is still in the stage of childhood in the Indian companies. Lots of opportunities are available. Now this is the right time to select Green Marketing globally. It will come with drastic change in the world of business if all nations will make strict rules because green marketing is essential to save world from pollution.

From the business point of view because a clever marketer is one who not only convinces the consumer, but also involves the consumer in marketing his product. Green marketing should not be considered as just one more approach to marketing, but has to be pursued with much greater vigor, as it has an environmental and social dimension to it. With the threat of global warming looming large, it is extremely important that green marketing becomes the norm rather than an exception or just a fad. Recycling of paper, metals, plastics, etc., in a safe and environmentally harmless manner should become much more systematized and universal. It has to become the general norm to use energy efficient lamps and other electrical goods.

Indian market Customers too are ready to pay premium price for green products. One thing that is being reiterated is that the current consumption levels are too high and are unsustainable. Therefore there is a need for green marketing and a need for a shift in the consumer's behavior and attitude towards more environment friendly life styles. Ultimately green marketing requires that consumers want a cleaner environment and are willing to pay for it, possibly through higher priced goods, modified individual lifestyles, or even governmental intervention. Until this occurs it will be difficult for firms alone to lead the green marketing revolution. An environmental committed organization may not only produce goods that have reduced their detrimental impact on the environment, they may also be able to pressure their suppliers to behave in a more environmentally responsible fashion. Final consumers and industrial buyers also have the ability to pressure organizations to integrate the environment into their corporate culture and thus ensure all organizations minimize the detrimental environmental impact of their activities.

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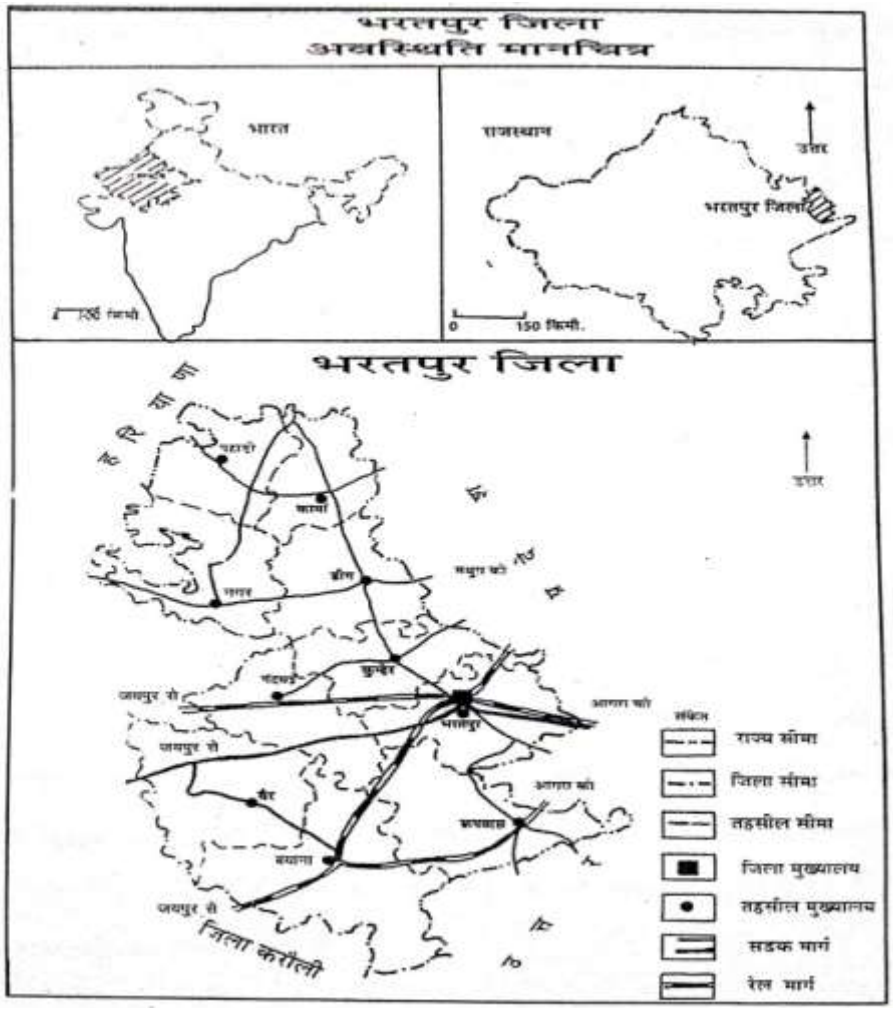

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भरतपुर का जनसंख्या विवरण–2011

क्रम संख्या	तहसील	गांव	जनसंख्या (2011)	जनसंख्या (0–6 साल के बच्चे)	लिंगानुपात	साक्षरता
1.	बयाना	197	269512	46176	841	153979
2.	रूपवास	164	257952	44485	865	153577
3.	वैर	155	280092	45139	877	165585
4.	भरतपुर	194	453015	65187	883	302440
5.	नदबइ	124	215136	32521	873	135467
6.	कुम्हेर	131	201341	30716	884	127462
7.	डीग	133	226710	37333	878	131472
8.	नगर	172	241858	45136	893	126343
9.	कामां	128	203949	42398	896	98883
10.	पहाड़ी	136	198897	47074	921	85661
	कुल	1534	2548462	436165	880	1480869

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d-l-	uke Fkkuk	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
1-	Dkrokyh	1135	1466	1466	542	352	356	412	487	497	428	516	414	396	366	327	323
2-	eFkjkxV	&	&	&	415	584	536	663	693	683	743	689	582	606	513	576	471
3-	vVycUn	&	&	&	180	207	237	214	270	296	262	299	239	201	203	221	238
4-	m|kxuxj	&	&	&	149	179	192	21	28	268	317	244	224	226	245	239	273
5-	fpdLouk		103	225	206	270	250	247	265	263	271	274	262	281	313	305	246
6-	C;kuk	511	545	542	519	527	553	547	643	617	700	840	767	777	638	681	648
7-	:iokl	259	292	352	348	314	378	350	525	478	499	474	528	532	546	529	551
8-	mPpu	168	166	206	181	177	221	234	233	286	279	287	287	299	242	250	221
9-	xBhck tuk	60	66	70	71	82	82	93	118	90	99	85	99	86	51	67	78
10-	Hkl koj	269	296	254	323	355	329	490	448	517	451	470	450	493	391	470	377
11-	cj	153	174	137	142	136	181	204	179	193	214	249	255	223	202	237	213
12-	gyuk	134	132	141	172	141	189	233	212	176	200	205	274	200	204	263	193
13-	loj	500	480	420	340	430	354	483	526	514	540	483	511	476	792	446	397
14-	dEgj	435	400	458	403	398	426	435	513	542	619	582	507	586	515	535	393
15-	uncb	344	348	455	359	466	448	620	682	649	742	791	828	693	567	783	570
16-	Mhx	365	473	552	502	617	534	590	693	746	697	657	650	79	779	846	656
17-	uxj	184	208	234	286	255	211	279	301	340	358	360	343	380	309	319	238
18-	lhdjh	154	137	161	144	225	178	146	152	242	289	238	228	201	172	144	155
19-	dkek	236	239	263	218	289	227	212	369	435	504	438	512	451	492	533	410
20-	igkMh	185	204	188	163	140	130	139	215	203	220	291	257	224	216	250	241
21-	tjgjk	112	106	135	137	149	149	127	162	204	159	187	245	198	210	185	163
22-	Xkikyx<	&	&	&	49	53	90	78	89	111	103	123	118	81	88	93	78
23-	efgyk Fkkuk	&	&	&	&	&	&	&	&	&	&	&	61	70	7	84	58
		5204	5835	6260	5932	6346	6251	7011	8086	8694	8694	8782	8641	8459	7832	8382	7188

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CUSTOMER RELATIONSHIP MANAGEMENT IN THE CENTRAL RAILWAY, NAGPUR DIVISION WITH REFERENCE TO ONLINE SERVICES

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Kailas Kadu[2]

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ABSTRACT

Customer relationship management is the strategy to manage customers. In the central railway, Nagpur division the present study was carried out for the critical analysis of the customer relationship management adopted by central railway with reference to its online services. The duration of the study is three years i.e. from July 2016- June 2019 and 100 number of respondents included.

From the findings of the present study it is concluded that the many online services provided by the central railway like seat availability status, fare enquiry on the website and train schedule was excellent and very good. Some services like hotel booking from IRCTC website, tour packages, train arrival and departure time, online ticket reservation and FAQ service are satisfactory and some service like car rental facility is very poor. To overcome the present scenario and compete in the today's competitive world, the central railway should adopt new customer relationship strategies to attract them.

INTRODUCTION

Customer Relationship Management (CRM) is a business strategy for highly competitive business environment such as railway, tourism, gas and electricity supply, internet services, banking, consultancy, health care, and so on. CRM systems wish to identify this group of customers in order to attract them, provide efficient, long-term value for them and retain them.

Customer relationship management is one of the strategies to manage customer as it focuses on understanding customers as individuals instead of as part of a group. CRM manages the relationships between a firm and its customers. CRM and knowledge management are directed towards improving and continuously delivering good services to customers (Knox *et al.*, 2003).

To understand more in customer relationship management, we first need to understand the key performance indicator of the customer, relation management. The cycle of activities developed by the CRMs must be measured through the so-called key performance indicatorsand are concentrated in four phases (Buttle, 2002):

- **Customer identification**: In this first stage, the analysis of that part of the population that can become part of the company is carried out. In addition, the users who have gone to the other TOCs and the way in which they can return to the organization. The processes of analysis and segmentation of the potential customers are those that are executed in this stage.

- **Customer attraction**: After knowing the different segments of potential customers, the companies offer them services in order to attract them, through direct marketing actions. Examples of direct marketing are: the distribution of discounts for the use of services to new customers, information by different channels such as email, etc.
- **Customer retention**: At this stage, the key performance indicator to take into account is customer satisfaction. To improve the satisfaction indexes are carried out: personalized marketing strategies for each of the customer groups identified within the organization; loyalty programs to keep them for long periods of time; as well as effective management of claims. The decisions about these commercial actions are based on techniques of analysis and prediction of the behavior of the users.
- **Customer development**: In order to increase the amount and value of the effected services, as well as the expected benefit of the customers, an analysis of the customer life cycle in the organization is carried out.

On the basis of the review of literature, it was found that, in past decades the central railway does customer relationship management studies (Kasukabe *et al.*, 2010; Piening *et al.*, 2013). Currently, with the new online services and the introduction of the competencies in railway markets have greatly increased the opportunities for creating successful CRM systems as a way to manage the traveler's relationship with railway (Dick and Basu, 1994).

The classic methods used in railway planning to decide commercial actions, railway operations, etc. work with aggregated demands. However, new analytical techniques such as big data and data mining allow CRMs to work at customer level, opening new CRM's functionalities which are becoming a pivotal management tools for railway.

The effective relationship between customers and central railway depends on the understanding of the different needs of customers at different stages. The objective is to effectively analyze all the available data about the customer. The ability of railway to respond towards the customers' needs make the customers feel like a valuable individual rather than just part of a large number of customers. CRM is a sound business strategy to identify the most profitable customers and prospects, and devotes time and attention to expanding account relationships with those customers. In order to succeed with strategic organizational change central railway should also communicate the change to customers (Chin and Hou, 2016).

RESEARCH METHODOLOGY

To achieve designed objectives of the study and to analyze the different factors with appropriate methodology has been adopted. The present study is exploratory as well as descriptive. The present study is based on primary and secondary data. The primary data has been collected from a sample of 100 personnel's. The Primary data has been collected with a well structured and pre tested questionnaire. Secondary data has been collected through newspapers, articles, internet and website etc. the duration of the study is 03 years i.e. from July 2016 to June 2019.

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DATA ANALYSIS AND INTERPRETATION OF RESULTS

Indian railway provides many online services to the passengers. The various online services like ticket booking, PNR check, schedule check, fare details and online valet etc. are provided by the Indian railway to the passengers. During the use of online services many passengers face the problems. Due to the problem arises in delivering the online services the peoples was hesitating to trust on the online services. To know about and solve the problem researcher was studied the online services if Indian railway.

More than 73.00 % respondents use online services of the Indian railway from more than 03 years. 10.00 % from 02-03 years and 15.5 % from 1-2 tears. Only 1.5 % respondents use online services of Indian railway from less than half a year (Table 1).

- **Perceived Usefulness of Online services**

The perceives usefulness of the online services of Indian railway with respect to passengers was surveyed. The usefulness in terms of Useful to purchase a ticket, Saves time in purchasing a ticket, Makes easier to buy a ticket and Provides information in time was studied.

According to the respondents, all the four services was most usefull to the passengers. About 62.00 % respondents strongly agreed to the usefulness of online services to purchase ticket. 76.00 % feels that, the online services was saves time in purchasing ticket and according to 48.00 % respondents it makes easier to buy a ticket. 56.00 % respondents say that, online services provides information in time (Table 1).

Table 1 : Perceived usefulness of online services provided by central railway

Perceived usefulness of online services	Strongly Agree	Agree	Neutral	Disagree	Strongly disagree
Useful to purchase a ticket	62.00 %	25.00 %	00.00 %	10.00 %	03.00 %
Saves time in purchasing a ticket	76.00 %	20.00 %	04.00 %	00.00 %	00.00 %
Makes easier to buy a ticket	48.00 %	36.00 %	06.00 %	06.00 %	04.00 %
Provides information in time	56.00 %	41.00 %	01.00 %	02.00 %	00.00 %

- **Perceived Ease of Use of online services**

The ease of use is also the important parameter to keep in mind. The ease of use in terms of Easy to learn, Easy to understand, Easy to purchase a ticket, Simple, Easy to use and Interaction were surveyed.

Surprisingly most of the respondents were neutral for the easy to learn, easy to understand, easy to purchase ticket and simple online services. 47.00 % respondents were agreed that the online services was easy to use and 39.00 % respondents feels that, the interaction with the Indian railway was clear during using online services (Table 2).

Table 2 : Perceived ease of use of online services provided by central railway

Perceived ease of use of online services	Strongly Agree	Agree	Neutral	Disagree	Strongly disagree
Easy to learn	06.00 %	27.00 %	41.00 %	21.00 %	05.00 %
Easy to understand	06.00 %	29.00 %	34.00 %	28.00 %	03.00 %
Easy to purchase a ticket	11.00 %	18.00 %	41.00 %	21.00 %	09.00 %
Simple	02.00 %	34.00 %	54.00 %	03.00 %	07.00 %
Easy to use	13.00 %	47.00 %	34.00 %	06.00 %	00.00 %
Interaction is clear	39.00 %	20.00 %	21.00 %	09.00 %	11.00 %

- **Trust on Online services**

The trust of the online services is also important because it includes the online payment and personnel information of the user. According to the present study it was cleared that, the reliability of the online services was very good by about 90.00 % respondents (Table 3).

Table 3 : Trust on online services provided by central railway

	Strongly Agree	**Agree**	**Neutral**	**Disagree**	**Strongly disagree**
Reliable	41.00 %	47.00 %	8.5 %	3.5 %	00.00 %

- **Perceived Risk of use of online services**

Almost most of the passengers were feels reliable during the use of online services but some questions regarding the risk was raised in the mind of user.

Most of the respondents feel that, the personnel information is safe on the website and they does not feel the risk in monetary transaction. Only the thing which should be kept in mind is that, the danger of the internet hacker is high and money deducted without ticket booking is the concern. The use of online services is the wastage of money was not feels by the respondents (Table 4).

Table 4 : Perceived risk of use of online services provided by central railway

Perceived Risk of use of Online services	**Strongly Agree**	**Agree**	**Neutral**	**Disagree**	**Strongly disagree**
Personal information is not safe	01.00 %	03.00 %	16.00 %	44.00 %	35.00 %
Risk in monetary transactions	04.00 %	01.00 %	24.00 %	57.00 %	14.00 %
Risk of internet hackers	14.00 %	42.00 %	35.00 %	09.00 %	00.00 %
Money deducted without ticket booking	04.00 %	4.5 %	21.00 %	36.5 %	34.00 %
Wastage of money	00.00 %	03.00 %	01.00 %	32.00 %	64.00 %

- **Evaluation of Online Services**

Some other online services other than ticket booking was provided by the Indian railway on website. These other online services are Hotel booking, Car rental, Tour packages, Seat availability status, Train arrival & Departure Time, Online ticket reservation, Fare enquiry, Train schedule, Frequently asked questions and Loyalty programs.

The hotel booking from the IRCTC website was satisfactory by 45.00 % respondents. The car rental facility was poor and represented by 68.00 % respondents. According to the 52.00 % respondents the tour packages was only satisfactory. The seat availability status was excellent by the 45.00 % respondents and train arrival and departure time was also good and it represented by the 67.00 % respondents. 48.00 % respondents represented that, the online ticket reservation was good and 49.00 % respondents feels that the fare enquiry on the website was excellent. Like fare enquiry the train schedule was also excellent on the website by 48.00 % respondents. The frequently asked questions (FAQ) facility is also provided by the Indian railway and about 58.00 % respondents feels that the FAQ service was good. Only the thing that the loyalty programmes of the Indian railway was not excellent or good. According to 57.00 % respondents, the loyalty programmes was satisfactory.

Table 5 : Evaluation of online services provided by central railway

Evaluation of Online services	Excellent	Good	Satisfactory	Poor	Very Poor
Hotel booking	05.00 %	14.00 %	45.00 %	21.5 %	14.5 %
Car rental	00.00 %	06.00 %	24.00 %	68.00 %	02.00 %
Tour packages	03.00	29.00 %	52.00 %	12.00 %	04.00 %
Seat availability status	45.00 %	26.00 %	24.00 %	05.00 %	00.00 %
Train arrival & Departure Time	31.00 %	67.00 %	02.00 %	00.00 %	00.00 %
Online ticket reservation	02.00 %	48.00 %	34.5 %	13.5 %	02.00 %
Fare enquiry	49.00 %	27.00 %	24.00 %	00.00 %	00.00 %
Train schedule	48.00 %	38.5 %	04.5 %	08.00 %	01.00 %
Frequently asked questions	16.00 %	58.00 %	18.00 %	02.00 %	06.00 %
Loyalty programs	03.00 %	12.00 %	57.00 %	23.00 %	05.00 %

CONCLUSION AND RECOMMENDATIONS

Indian railway provides many online services to the passengers. During the use of online services many passengers face the problems. Due to the problem arises in delivering the online services the peoples was hesitating to trust on the online services.

According to the present study, most of the respondents have used online services of the central railway from more than 03 years. Peoples were strongly agreed with the perceived use of the online services of the central railway. Surprisingly it is found that, most of the respondents were neutral for the easy to learn, easy to understand, easy to purchase ticket and simple online services. The reliability of the online services was very good. Most of the respondents feel that, the personnel information is safe on the website and they do not feel the risk in monetary transaction. Only the thing which should be kept in mind is that, the danger of the internet hacker is high and money deducted without ticket booking is the concern. From the evaluation of the online services of the central railway it is found that the some online services of the central railway are excellent. These services are seat availability status, fare enquiry on the website and train schedule. Some online services like hotel booking from IRCTC website, tour packages, train arrival and departure time, online ticket reservation and FAQ service are found to be satisfactory. The online service provided by central railway which is very poor and need improvement is car rental facility.

The general discussion can be said that the central railway is yet to develop an integrative approach which focuses on the customer needs and to deliver to it. As shown by the study, the central railway is far from developing a customer centric approach both for the customer as well as for the employees. Thus, for customer relationship management to deliver to its expectations, it should play an integrative role within the central railway, Nagpur division.

Integrity, Honesty and Reliability is also a important factor in the reference of customer. No doubt CRM is here to take on the business world and essential to compete effectively in today's market place. A proper strategic alliance between various partners in the process of implementing CRM should be decided well ahead and once the concept is accepted it should be implemented in good faith and spirit so as to derive customer delight.

On the basis of the findings of the present study, it is recommended that, the authorities should aware about it and inform customers about the various online services offered to the customers. Awareness programs should be provided and must take effective

steps to attract people of all ages. Employees have to be friendly with customers. Railway must introduce new ways and means that makes its customer highly delighted with its quality of services. It is also suggested that, the central railway have to identify, analyze and solve the problems faced by the customers while availing the online services within a short span of time to win over the confidence of customers.

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Emergent Issues & Trends in Retail Marketing

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ABSTRACT
The internet and mobile phone penetration has changed the way we communicate and do business. E-retailing is relatively a novel concept. At present, it is heavily leaning on the internet and mobile phone revolution to essentially alter the way businesses reach their customers. Today retail marketer's emphasis on engaging the customers by offering them value and a customer experience which is innovative and adapted. Consumers today are becoming digitally aware and marketers are leveraging this opportunity to position their brands in a clutter breaking manner and improvement competitive edge. Retail Marketing is the methodical approach of selling goods / services that satisfy specific needs of customers, adopted by every business and not for-profit agency and group with a message. A highly competitive environment, conversant consumers and fast pace of technology are keeping business enterprises on their toes. This paper focuses on the emerging trends and issues related to the retail marketing.
Keywords: - retail marketing, customers, trends & issues.

Introduction :
India's economy has experienced a substantial transformation since its independence in 1947. Agriculture now accounts for only one-fifth of the gross domestic product (GDP), down from 59 percent in 1950, and a wide range of contemporary industries and support services now exist.
Starting in 1992, India began to instrument trade liberalization measures. The economy has grown—the GDP growth rate ranged between 6 and 8 percent annually over the period 1992-2010 and considerable progress has been made in loosening government regulations, particularly restrictions on private businesses
Currently, India is one of the fastest growing economies in the world and By 2030, India would be one of the Top 5 economies in terms of GDP
The India retail market is projected at US$ 470 Bn in 2011, accounting for ~35% of GDP and is expected to grow to US$ 675 Bn by 2016, @ CAGR of 7.5%
The organized retail market is projected at US$ 26 Bn and accounts for ~6% of the overall retail market for 2011. The organized retail market is projected to grow to US$ 84 Bn by 2016, @CAGR of 26%
Retailing in the novel millennium stands as an exciting, complex and critical sector of business in most developed as well as emerging economies. Today, the retailing industry is being buffeted by a number of forces concurrently, e.g., increasing competition within and across retailing formats, the growth of online retailing, the beginning of radio frequency identification technology, the explosion in customer-level data availability, the global expansion of major retail chains like D-mart, Big Bazaar & Future Group and so on. Making sense of it all is not easy but of vital importance to retailing practitioners, analysts and policymakers. With brittle and insightful contributions from many of the world's leading experts in retailing, Retailing in the 21st Century offers in a compendium of state-of-the-art, cutting-edge knowledge to guide successful retailing in the new millennium.

Meaning Of Retail & Retailing

Retail is the sale of goods & services from individuals or businesses to the end-user of the products and services. Retailers play an important role in an integrated system called the supply chain. A retailer purchases goods or products in large amounts from manufacturers directly or through a wholesale, and then sells smaller quantities to the consumer for a profit. Retailing can be done in either fixed locations like stores or markets, door-to-door, specialty stores & by delivery. Retail is a simple concept: buy or make goods, place them on a shelf and sell them at a profit. However, competition for customers and the expenses complex in running a store ultimately pose

challenges in the retail industry. Both large and small retailers face obstacles, whether it's maintaining a viable price point or keeping customers interested in what you sell.

Retailing, on the other hand comprises subordinated services, such as delivery. In simple words it is the sale of goods or commodities in minor quantities directly to consumers. Retailing is all about understanding the needs of the customer and moulding and packaging the product as per their necessities With the help of retailing the marketers are able to understand the connections between the lifestyle and expenditure characteristics of customers, their predilection to purchase one product or brand over another, and this helps in understanding competition prevailing in the market.

Key Issues

It is really said by William James that individuals. That is the reason retailing is like to be in the jungle where we have to contemplate for our survival to be the fittest. A good retailer would combine the modified care of the local grocer with the state-of-the-art CRM and other tools of retail to retain his customer base and to endure and flourish in an ever emerging retail scenario.

However, there are a few challenges that retailers transversely the country have to face. With the markets here being mainly fragmented and unorganized, retailers across the country face the following challenges:-

1.Heavy investment

It is very important for the retailers to focus on heavy investment to meet their infrastructure needs as well as choice of well-trained middle management level professionals for the smooth functioning of the trade in the market.

2. Supply Chain Management

Now a day, the market scenario is changing with a rapid speed which results in the constant variations in consumer taste & preferences, logistical challenges and evolution of new retail formats from time to time. Retailers need to implement various strategies to improve their business processes, such as logistics, innovation, distribution, fashion, marketing and management to keep in step with changing market trends and to reach the levels of quality and service as per the expectations of the consumers.

3. Frauds in Retail

However, with rapid growth in the retail sector, the related perils and issues are also coming to the forefront. The reduction or fraud in retail is a key issue that is becoming a cause of concern for Indian retailers. Shrinkage is the "loss in inventory on account of a mixture of employee theft, shoplifting, vendor fraud and administrative error."

4. Infrastructure and Logistics

Retailing and logistics are concerned with product obtainability from the manufacturers and sometimes the retailers have to bear huge losses due to lack of proper infrastructure and distribution process. Good infrastructure and well-organized distribution channel is the need of the hour to boost the retail business. It is required to concentrate in providing better transportation systems, warehousing facilities and timely distribution of products.

5. Merchandise:

The primary goal of the most retailers is to sell the proper type of merchandise and nothing is more central to the strategic thrust of the retailing firm. Merchandising consists of activities involved in obtaining particular goods and services and making them available at a place, time and quantity that permit the retailer to reach its goals. Merchandising is perhaps, the most important function for any retail organization, as it decides what finally goes on shelf of the store.

6. Change or perish

Change or perish is the writing on the wall. Some of the major names in retail, with stores all over the country have disappeared from the retail map and some of the retailers are stressed to come to terms with the change so that they can meet the expectations of customers. New players are emerging, who seem to know which way the wind is floating. They will also be voted out by the customer, if they do not change with the times and continually keep satisfying the ever increasing and ever changing needs of the customer.

7. Pricing

Pricing is a crucial strategic variable due to its direct association with a firm's goal and its interaction with other retailing elements. The importance of valuing decisions is growing because today's customers are looking for good value when they buy merchandise and services. Price is the easiest and rapidest variable to change.

8. Target audience

"Consumer the prime mover" "Consumer Pull", however, appears to be the most important driving factor behind the sustenance of the industry. The purchasing power of the customers has increased to a great extent, with the manipulating the retail industry to a great extent, a variety of other factors also seem to fuel the retailing boom.

9. Scale of operations

Scale of operations comprises all the supply chain activities, which are carried out in the business. It is one of the challenges that the Indian retailers are fronting. The cost of business operations is very high.

10. FDI in retail

FDI would have a positive effect on the economy in the long term. It would lead to greater efficiency and development in standard of living and ultimately benefit the consumer both price and selection wise, due to the overview of technology and know-how of foreign player in the market. Today, consumers are very particular when it comes to buying of a brand of a product which is offered to them. Companies need to be up-to-date with latest trends and techniques in order to be able to contest with others in the market.

Auditing

Auditing is another problem that the retail industry faces on a regular basis. Retail businesses are frequently engaged in competition with one another, and this competition creates price wars, forcing a need to keep tight control over inventory and other important data. The company notes that present auditing systems may be outdated and provide inadequate audits needed to stay competitive.

Technology

Keeping up with the step of modern technology is one of the major problems the retail industry is facing. For instance, retail point of sale technology often uses computer systems that are numerous years behind the computer industry as a whole. The incapability of retail industry technology to keep up with initiatives such as mobile digital coupons is a problem that the industry regularly faces.

Employee Turnover

Lack of worker continuity, or employee turnover, is one of the main problems faced by the retail industry. Employees coming in and out of your business as if it were a revolving door only create problems for human resource professionals who must continually find and train new staff, which can eat up valuable time and resources.

Economic Challenges

Another area of challenge for the retail industry is the economic uncertainty it faces progressing. The retail industry as a whole is largely dependent upon the economic wellbeing of the nation. As the nation prospers and people have more money to spend, the retail industry generally flourishes. However, in more problematic economic times, the retail industry is often faced with potential shrinkage. IT also indicates that the future uncertainty of global economic marketplaces makes economic planning difficult in the retail world.

Trends in Retail Marketing

1. Customer redefining values

Value is no longer only about price – it is clearly Price plus.

Retailers are training their staff to be experts in whatever field they're in so that they can attract customers also with the help of one or two attributes for taking the consumption decision e.g. just the size of the LED panel for the TV, just the capacity of the refrigerator, just the fiber composition of the clothing and the confidence in the retailer / brand etc.

Consumers will enhance their purchases largely on simple attributes of price and convenience (time efficiency) in order to release more resources (money, time, mental involvement) for the aspiration / lifestyle based consumption categories.

2. Retailers are letting customers make decisions for them

With the increased purchasing power and the rise in number of double income families and demanding customers, due to change in life style and paucity of time, customers are increasingly looking for convenience. To letting the costumers taking their own decisions, the store retailers are providing a wide product range, quality and value for money, apart from creating a memorable shopping experience.

3. Mobile commerce

Consumers are being given the opportunity through their mobile phones of shopping, checking order status, signing up for text alerts and other interactive functions. The retailer's are using mobile store which carries links to the retailer's social networking pages on sites such as Facebook, MySpace, Home shop 18 Twitter, You Tube and Flickr.

4. Mobile marketing.

Consumers choose in to a retailer's mobile marketing program by giving it both mobile phone number and explicit consensus to be contacted with promotional offers. The retailer thus builds a database of customers with whom it has authority to conduct real-time communications. The communication itself frequently takes the form of text messages alerting the customer to new products, special deals and other promotional offers. The messages can also contain coupons that are entrenched with a code that is entered into the retailer's point-of-sale (POS) system at the checkout.

5. Popup shops.

A pop-up shop is a short term retail space that seems seemingly out of nowhere, quickly drawing in customers, and then disappears when the optimal selling season is over. While you'll see large retailers such as Target, different incorporating come up in their main retail space to briefly promote trendy events, pop-ups shops are a great way for artists and crafters to have a retail presence during main selling periods during the year.

These are provisional stores set up by retailers either in unconventional locations (e.g. churches or university campuses), or in vacant conventional retail space. They are used by retailers to present themselves into new markets where they have not yet established a real estate presence.

6. Corporate responsibility.

"Think Green, Go Green" is the main object in the mind of the retailers which brings the issue of green and sustainable retailing closely associated with the broader topic of corporate responsibility, which includes community involvement, charitable giving, fair trade and good working conditions for employees.

In many of the countries, social responsibility is now high on the list of shopper buying criteria. The best retailers believe they can no longer have enough money to appeal to material self-gratification alone.

7. Customization.

Retail chains are making a greater efforts to tailor merchandise assortments to local markets. However, the customization trend runs much further than that.

For example, US drug store retailer CVS offers customizable gift cards whereby visitors to its website are able to create virtual gift cards with a modified look and feel, incorporating customer-selected colors, fonts and greetings. After selecting the dollar amount of the gift card customers can also specify the date, time and destination of email delivery.

The virtual gift card can be printed by the receiver and brought to the store for redemption.

8. Advancing technology ahead of the point-of-sale.

Technology went mainstream at the till a long time ago but now mobile handheld devices are being used in a diversity of ways to speed the checkout process and improve the efficiency and pleasure of the shopping experience. For example, portable terminals are

now being used by some retailers that enable customers to scan items before they reach the checkout, where they simply need to pay.
These technological tools, like corporate responsibility, add to a retailer's cache and represent a genuine marketing advantage.

9. Social media
Retailers are progressively using social media networks such as Twitter and Facebook as market research and marketing channels. The sites provide an occasion for retailers to form and interact with communities of consumers, and to direct them to virtual or physical space such as other websites or physical stores.

10. Using Free Area at shop windows as advertising signs. This is the typical case of making a silk purse out of a sow's ear: use the increasing number of vacant shop windows in shopping centres to endorse retailers and retailers' products. This can often be hi-tech; concerning the use of digital displays, and draw the shopper's attention to specific merchandise or promotions in a nearby store.

11. Discounting and giveaways.
Surprise, they are still here notwithstanding massive inventory reductions that have created so-called "zombie stores" (stores that have large areas of vacant space and half-empty shelves). Don't suppose the promotional marketing tool to be put down anytime soon.

Conclusion :
The increasing use of internet and mobile phone has changed the way we communicate and do business. E-commerce is comparatively a novel concept. It is, at present, heavily leaning on the internet and mobile phone revolution to essentially alter the way businesses reach their customers. Retailing is a technology – rigorous industry where successful retailers today work closely with their renders to predict consumer demand, smaller leads times, reduce inventory holding and thereby save cost.
So, to compete successfully in the 21st century, firms need to meet the challenges of a rapidly globalizing, highly competitive and technologically complex environment. These challenges become yet more daunting with the accelerating pace of change and increasingly volatile and turbulent nature of markets. And it is important for the retailers to cope with this changing scenario for better survival.

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Role of Talent Management in Organization for Strategic Development

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Abstract

The need for talent management is critical, many organizations flounder when it comes to effectively leveraging a state-of-the-art technology solution. The primary difficulty lies in sharply diminished business benefits when organizations fail to take advantage of talent solutions that integrate fully with the core human resources (HR) system of record and with each other.

An integrated approach is ideal for the forward-thinking organization expanding its talent management scope or for an organization exploring talent management for the first time. Real-time integration that optimizes all aspects of talent management can best be achieved with a solution from the same vendor that provides the core HR system.

Today's changing business landscape demands that HR aligns its processes, practices and strategies with business objectives. This demand can only be met by a comprehensive solution that effectively manages an organization's talent and the entire Human Capital Management (HCM) lifecycle together. An integrated talent management framework delivers this success via a holistic view of talent. Single, modular, enterprise-wide system supported by a single data source provides consistent data and business processes and a uniform look and feel that together establish the foundation for insightful decision-making and profitability.

Keywords : Talent Management, strategic Management, HR

INTRODUCTION

The HR professional or department that excels not only solves specific business problems today, but also delivers the ability to address broader, more universal strategic challenges as well—thus building a solid foundation for tomorrow's success. A solution must have the scope to handle widespread business problems and encompass new business partners, corporate mergers, new markets, new technologies and more.

An integrated talent management framework can be defined as a secure, single-platform, workflow-driven system that leverages a single data model and is inclusive of the core HR system of record and all talent processes. Integrated talent management—because it is by nature integrated—equips organizations with a broad range of functional and decision-making capabilities for strategically handling today's and tomorrow's business issues within a consistent, end-to-end framework. The system empowers the organization with insight, agility, efficiency and consistency in talent management.

This paper describes difficulties and dangers organizations face when attempting to choose from among vendors' solutions that are not native to the core system. The paper then describes integrated talent management as a holistic HR strategy and explains in detail the numerous advantages of integrated approach in terms of short- and long-term business value, functional advantages and technical value.

PROBLEMS LEVERAGING CORE HR AND OTHER HR APPLICATIONS

Niche vendors' products might offer shorter implementations and dazzling user interfaces (UIs). However, their offerings introduce functional and technical issues that can keep HR from managing talent efficiently and making informed decisions as a strategic business partner. Problematic symptoms emerge such as the failure to find answers to strategic questions, diluted business benefits due to short-term fixes, unforeseen costs often connected to technology difficulties and other red flags.

According to Aberdeen Group, "Best-in-Class companies report a variety of planned enhancements to the functionality of their HR systems: it is important that these enhancements actually provide value, and aren't just 'whiz-bang' additions. While robust capabilities and enablers can add a great

deal of value, make sure that they are part of the mission of the organization, not just a new offering."

Short-Term Fix Tragedy: Diluting the Benefits of Core HR

When a specific problem, such as a skill gap or employee engagement issue, requires a rapid solution, decision makers must not be myopic. Too frequently HR fails to step back and ensure that the solution contributes to the comprehensive, end-to-end management of human capital from a talent perspective.

In reference to recruitment and succession concerns with top management, *The Wall Street Journal* states, "Companies are racing to find solutions, but most of them are making a crucial error: They're treating these problems as separate issues."

Racing to a conclusion usually does not yield the right one. If a talent-related problem is quickly solved in an isolated way via a niche product, another problem will later emerge in other talent processes. This occurs because, when a niche product is present, true integration with other talent processes and with the core HR system is lacking. For example, a performance evaluation might show a below-average rating in a required competency, but the low rating does not trigger associated development due to the absence of integration and workflow continuity between the performance and learning solutions. The organization is therefore left with substandard performance capabilities and an unsupported and unmotivated employee. Similar difficulties will occur in subsequent processes, resulting in downstream operational inefficiencies and expenses.

Meanwhile, multiple solutions from multiple vendors result in multiple competency models, and each differs from the one in core HR—hence a heterogeneous collection of applications with vast duplication of effort. This error is more likely to occur when HR is rewarded for rapid short-term solutions such as implementing a recruiting solution instead of longer-term results such as high-performance recruits.

When an enterprise resolves its performance issues, it should see the benefits flow directly into learning, career development and succession planning as a by-product of integration between applications and with core HR. However, even if an organization's information technology (IT) department works diligently to integrate a third-party niche talent management solution, the apples-to-oranges match is not 100 percent effective, so some functionality is inevitably lost.

Integration points are essential for realizing the business benefits of talent management. The following are some examples of how niche vendor products can dilute business benefits by failing to connect at critical integration points:

- A niche learning solution solves little if it cannot integrate performance gaps identified in a measurement process and if it does not supply the right learning for new hires in the recruiting system. This can result in a higher rate of turnover and lower performance scores for those recently hired.
- Performance analytics that identify high performers yet cannot indicate their recruiting sources diminish a major business benefit of analytics and cause an organization to lose valuable insight. Time and effort are wasted because recruiters are unable to narrow their searches to known high-yield sources.
- The enterprise that can do performance reviews but cannot connect performance to learning, succession planning and compensation cannot truly leverage the power of performance management. The result is a disjointed, incomplete picture of employees and their value to the organization.
- Without integration, recruiters are shooting in the dark. They do not know what salary offer is competitive in the marketplace without creating internal equity issues. Paying more for new employees in a given role means existing employees in that role will either leave and come back or hold out for what the market is paying.

Even if a niche vendor extends its recruiting offering into performance and compensation and calls it integrated, the absence of native integration with the core HR system depletes the business benefit. Often smaller software vendors that have grown via acquisitions do not have time or resources to rewrite code to create a seamless solution. They offer a "suite" in name alone, because their code and functionality are from disparate origins.

Ongoing and Hidden Expenses

Using products outside the original HR core vendor footprint raises total cost of ownership (TCO). Niche vendors in the talent management space introduce a number of expenses that can be both ongoing and hidden:

- Users must learn and remember a new interface for each product. If one niche vendor has purchased another, one solution could have two interfaces to learn. Time spent learning turns in to costs by hindering productivity.
- Language translations among disparate software vendors are not consistent, and even user preferences would need to be maintained multiple times. If the niche provider does not support the same languages as core HR, the user adoption rate is greatly reduced for multi-language organizations.
- Security logins require users to both remember and input a new user name and password for each product. This increases call volumes to HR and technical support as well as a loss in productive work hours.
- Implementation processes can be more complex for niche vendor products. In addition, the IT department must integrate disparate systems and train or obtain resources with the required skill sets for maintenance. Training or hiring additional IT staff to support separate products beyond the core HCM product line means needlessly duplicated effort and additional costs.
- Complexities involved in interfaces between systems from different vendors can increase the risk of losing data integrity, creating a potential expense in that area.
- An off-the-shelf product purchased quickly by an individual to solve an urgent problem might later be discovered as redundant or outside the main talent management strategy. An added expense, it therefore exists alone as a silo, requiring extra resources to transport data to the core system for reporting. The product might eventually atrophy from non-use, wasting all the time, money and effort invested.
- The products can entail daunting software-imposed challenges, translating into costs. Each application has different infrastructure requirements and different upgrade cycles that require IT to repair point-to-point integrations.
- License and maintenance fees for a number of separate solutions are more costly and involve more time-consuming tracking efforts than dealing with a single vendor.

HOLISTIC VIEW OF TALENT MANAGEMENT

A holistic view of talent management enables HR to address urgent problems in the context of a roadmap where all aspects of talent management fit together long term. HR decision makers must be cognizant of what the organization's ideal, full-fledged solution should look like down the road—even if there is only budget for a small entry point into talent management today.

The many Banks, believes in the importance of strategy. We need to have an idea of what you want to accomplish for your business and the ways better management of people can help requires an integrated approach and highly capable, flexible technology tools.

Ideal Solution: An Integrated Framework

According to *The Wall Street Journal*, "To meet the challenge, companies must rethink how they hire, train and reward their employees, placing those tasks at the heart of their business plans. In doing so, they have an opportunity to address all these separate problems with a unified plan, rather than waste time and resources attacking each of the issues individually."

An organization that chooses integrated talent management—whether it is E-Business Suite or Enterprise Talent Management—receives the entire talent management framework in a modular form with out-of-the-box integration of HCM processes. Multiple integration points create visibility across lines of business. This enterprise-wide framework delivers consistent processes, line-of-sight visibility and greater usability. Only such a fully integrated approach can supply a holistic view of talent management from a process perspective.

An organization might have all the modules in the framework, or begin with one or more modules and build from there. As HR leverages the framework, effectiveness increases. With respect to HR's success using technology to meet objectives, Cedar Crestone states, "We have seen levels of success rise the longer solutions are in place."
The modules, which integrate seamlessly and natively into the framework, are as follows: planning, recruiting, performance, learning, career development, succession planning, compensation, and measuring and reporting.

A holistic view powered by an integrated system is essential for optimizing results from the talent management lifecycle. Increases in employee engagement levels, performance improvements and productivity are the result.

Integration as the Foundation for a Holistic View
The hub-and-spoke model (Figure 1) shows how the modules communicate with each other and with the HR core. From a business perspective, it is integration that enables HR to track and manage an employee's changing data, event triggers and overall progress across all HCM processes. Achieving optimal results from spanning multiple business processes is only possible through native integration.
The goal of an integrated system is to seamlessly connect skills and competencies, learning objectives, performance and succession planning data, employee development plans, training metrics, and financial tracking information—all without the loss of data. Integration is not seamless if IT must build point-to-point integrations or if there is a separate place to define a job, person or goal. This is inevitable with third-party vendor products.
Where earlier they claimed to be specialists, many niche vendors are now touting solution suites. Clearly they too see the need for a holistic view. Yet a unified, modular, integrated system is nearly impossible with products from a collection of vendors—particularly with the potential of piecing together eight different integration designs for the eight HCM business processes.
Driving from the core HR engine and managing the different functional areas is clearly more efficient than attempting to work from the outside in via niche vendors. Working from the inside out also helps establish best practices. Integration points in the performance module enable recruiters to link back to the recruitment source of top performers. Similarly, HR can incent recruiters based on the quality of a recruit instead of the speed of filling a position, which improves the level of talent coming into the company.

More Than Just Processes
The rich functionality of HR applications is of great value—and the framework itself offers more than meets the eye. The following essentials are included in talent management framework: self-service, portals, user content, knowledge-based content from the HR helpdesk, single sign-on, always-current organizational structures driving workflows, event triggering, data and business process integration with core HR, and much more. A niche vendor does not have such a holistic offering.
In addition, the integrated talent management framework is not just for talent management. It can also be leveraged for business intelligence, because it enables companies to cut across lines of business and establish a process flow that tracks talent across acquisition, performance and development activities, thus improving decision-making capabilities across the enterprise.

BUSINESS VALUE OF AN INTEGRATED TALENT MANAGEMENT FRAMEWORK
The integrated talent management framework is an enterprise-level, sustainable solution with immediate and long-term benefits across the organization. The framework provides many advantages that equip HR to meet current and future challenges:

- A stable foundation for a holistic view of talent that drives business results
- Support for the objectives of C-level management, thus reinforcing HR's role as a strategic partner and advisor

- Improved decision-making capabilities due to better, more accurate information sourced in real time from the HR core
- Configurable framework that supports both globalization and differentiation as an employer of choice
- Improved business opportunities and relationships with customers, suppliers and other business partners

Integration and Business Results

As shown earlier, a holistic view of talent is impossible without an integrated framework. According to a senior financial executive at a large technology firm, the better the integration among disparate activities like recruitment, payroll, benefits, training and performance, the better an organization will be at workforce planning and management, as well as worker motivation. The degree of integration is directly related to organizational effectiveness.[6] Integration also frees time for HR to work on its strategic focus.

The most significant benefit of an integrated approach, however, is bottom-line results. A study by CedarCrestone, Inc., revealed a strong correlation between companies showing operating income growth and those with at least one talent management application from the HR core vendor.

According to Lexy Martin, director of Research and Analytics at CedarCrestone and lead author of the CedarCrestone HR Systems Survey, "We analyzed each respondent's talent management approach as to whether or not it was integrated. We defined integrated as having two or more talent management applications from the same vendor that provided a respondent's underlying core HR management system—an ERP vendor. Approaches that were not integrated included best-of-breed solutions, with two or more talent management applications from recognized best-of-breed vendors (not from the ERP vendor), and mixed approaches, which had two or more talent management applications with at least one from the ERP vendor and at least one from a best-of-breed vendor. We had used Gartner and Forrester reports to identify best-of-breed vendors. We then looked at operating income growth from the last two years. We determined that for organizations with an integrated or mixed talent management approach, operating income growth was significantly higher than for those that had chosen a strictly best-of-breed approach."

Strategic Partner Position: CEO, CIO and CFO Perspectives

To function as a strategic partner, HR must incorporate the perspectives of decision makers in top management. The buy-in of the following individuals is critical, and integrated talent management framework meets each of their needs.

CEO: The talent shortage makes recruiting, retention and career development of key professionals a primary concern. Talent management should also minimize risk while supporting long-term growth, ensure the smooth rollout and execution of new strategies, help achieve business objectives by cascading them down through the organization, maximize performance and return on investment (ROI), improve efficiencies and productivity, provide meaningful analytics, promote single-vendor accountability and deliver world-class service to employees.

CIO: To conserve time and resources, CIOs prefer that the solution and all underlying technologies are supported by only one skill set. Single-vendor accountability is also important to avoid support gaps. Out-of-the-box integration is ideal, and all components should be on a single stack and upgrade easily and simultaneously. There should be one data structure underlying all analytics and reporting. The focus should be on the solution, not multiple interfaces and time-consuming point-to-point integrations, and the enterprise should not be locked into outdated technologies. Talent management should accommodate future system requirements, incorporate best practices, minimize risk and remain flexible and adaptable.

CFO: The CFO prefers not to have multiple licenses because they can be expensive. In addition, managing vendor relationships is complex and time consuming. A single source and cost containment from a best-practice solution are important. Leveraging existing technologies, platforms, integrations and skill sets should minimize TCO.

Talent Assets and Leveraging the Core HR System

According to Aberdeen Group's competitive maturity assessment, 77 percent of organizations with best-in-class performance have a central, readily accessible location for HR record storage. Such a location, the central data repository, resides within the core HR system of record. This data store holds a complete, current inventory of a company's talent assets (often called a profile). The repository serves a critical purpose by maintaining employee attributes, competency models and other data in a single location that supplies up-to-date information in real time across the enterprise.

Having a talent management system from the same vendor as the core HR system is of great value. Every module in the framework, from planning to reporting, can source from the central data repository in the core. HR therefore is able to confidently build its day-to-day operational success and decision-making capabilities upon a consistent, reliable, predictable foundation. The central data repository is indispensable for a number of reasons:

- Job candidate information and other recruitment records are located here.
- HR can view talent assets at an individual level to see what skills, experience and training each employee brings to the table or needs to acquire.
- Talent can be viewed enterprise-wide at an aggregate level so HR can evaluate existing skill sets and decide how to fill current and future skill gaps.
- Other applications can leverage the data, as in cases where a customer relationship management (CRM) system routes calls to the right internal person to answer a question.
- HR can generate a wide range of useful analytics and reports

Talent products from outside vendors might modify data in their own competency models, but data feeds are not in real time, nor are they accurate. A third-party talent management solution lacks real-time data from the HR core because it is not managed in the same instance, so reporting and analytics are error-prone. The absence of real-time processes means niche providers will fail when it comes to workflow approvals, thus complicating the problem even more. Without the core HR system of record, niche vendors can only create subsets of data within the talent management realm that are wasteful—so these subsets become obstacles to success for HR.

Global Capabilities: Configurable Service Across Cultures

In today's global economy, only a configurable, integrated talent management solution is practical. The integrated talent management framework offers extended best-practice global capabilities, allowing an enterprise to configure the system for different countries and cultures.

Even a company that is not global today might be so in the future. For global operations, HR must address international concerns such as these:

- Countries and their laws and regulations
- Languages and currencies
- Cultural norms and local practices
- For example, in some countries a job offer letter is sent after successful completion of references, and in others a letter is sent beforehand. Processes such as recruiting, performance and learning have a strong cultural aspect, so configuring them is important. Most niche vendors cannot approach the level of configurability required to meet culture-specific requirements.

Integration starting with core HR is absolutely essential for consistent, streamlined administration across global locations. In addition, the ability to translate information into local languages and present it to audiences around the world—and receive back the desired HR data and information re-translated into the core HR language—is critical for talent management.

Configurability delivers other benefits as well. For unregulated aspects of talent management, the fact that organizations can configure the framework enables them to differentiate themselves, emphasize a unique culture and become more attractive employers for targeted prospects. "Integrated, scalable HR applications and processes can promote a consistent culture, plan and strategy without compromising local nuance and effectiveness."

Business Opportunities and Relationships

One of the imperatives of the knowledge economy is that the entire value chain—including employees, suppliers, customers, partners and distribution networks—is incorporated into talent management. An integrated talent management framework strengthens business opportunities and relationships across the extended enterprise by quickly integrating new customers, partners and suppliers to ensure rapid, real-time knowledge transfer. Learning offerings can extend beyond traditional corporate boundaries to better educate distributors, installers and service providers, thus improving supplier and partner skills and increasing customer satisfaction.

FUNCTIONAL CONSIDERATIONS: BEYOND THE USER INTERFACE

A system's UI should resonate with the entire user base without being a speed bump in the road of task completion. An integrated talent management framework facilitates productivity by being user-friendly and highly functional.

Adoption Rates and Usability

When users must learn a new interface or make adjustments to move from one task to another, adoption rates and usability decline. If a new interface is introduced, it is also questionable whether an employee will use that interface at all.

Integrated talent management provides a uniform, intuitive interface across every HCM process. Therefore user adoption is rapid, and there is no new learning curve for taking on new modules. A familiar look and feel also reduces training costs. Productivity increases because no time is wasted from multiple logins or efforts to adjust between differing interfaces.

Retention is an organization's number one weapon against the talent shortage. Niche vendors might claim to offer "a better user experience," but they require employees to re-create their entire profiles due to the absence of real-time touch-points with core HR. This is time consuming, and it can be an irritating task for many employees. Continual adjustments to new passwords, different UI layouts and the inconsistent presentation of tasks could also damage an employer's professional image and hinder retention.

Built on a Legacy: Continuous Investment in HCM Best Practices

"What-matters" functionality outweighs the allure of a pretty interface. Organizations interested in maximizing performance, productivity and profitability use the same functional, efficient UI across all talent management applications.

Niche vendor products might offer a look and feel some end users like, but this comes at the cost of development resources. Trendy features, glitz, and bells and whistles could become tiresome or outdated, communicating the message that HR does not understand its users. Some capabilities might seem important today but become useless in the face of best-practice business processes.

Occasionally a niche vendor offers a valuable, specialized feature not available within an integrated talent management framework. It is crucial to remember that development is continuously progressing on the capabilities of the framework. Therefore, it is likely that same feature will come available with the framework in the near future—if the feature is part of a best practice.

TECHNICAL CONSIDERATIONS AND IT EFFICIENCIES

The technical value of the integrated talent management framework lies primarily in native, out-of-the-box integration with core HR and among talent management modules and other HR functions. Integration is supported by a common platform, all from a single vendor. From that base, complex connections between legacy systems, multiple enterprise applications, newer technologies and partners are easily created and maintained.

A single application structure supported by one set of staff, the framework meets the needs of CIOs and IT department heads, helping increase efficiencies and conserve resources. Many other benefits—including simultaneous upgrades and an efficient, effective security structure—are enabled by integration.

Packaged Integration

The degree to which talent management is integrated is directly related to an organization's ability to meet business objectives and limit internal maintenance and support requirements. For the

purposes of this paper, technical integration can be defined as a common UI, security model, and reporting and analysis platform delivered out-of-the-box with all touch-points completed. The integrated talent management framework delivers every element in this definition and more. The hub-and-spoke model (seen earlier in Figure 1) means a new application integrates into the hub once, leveraging all existing connections instead of requiring new ones.

The framework can offer more than 1,600 data elements maintained as integration points. In the following hypothetical business case, integration efforts can be quantified based on estimates to design, build and test an integration similar to that received with the framework. Each integration involves fixed and variable time based on the number of messages involved:

- 15 days (fixed time) x 12 integrations (1,606 elements) = 180 days
- 108 messages x 1.5 days = 162 days
- TOTAL = 342 days

Assuming a conservative $100/hour in labor costs, the initial design, build and test would cost $273,600. Every time the core HR system or a module changes, IT must test the integrations, make necessary modifications and re-test. Assuming changes occur every two years due to an upgrade and 40 percent of the initial effort is required for maintenance, the resulting expense is $109,440 every two years.

Summing up, integration costs during an investment period of 10 years would total $711,360 in today's dollars, or $1.5 million adjusted for time valuation. This is money that does not need to be spent when leveraging E-Business Suite or PeopleSoft Enterprise Talent Management and taking advantage of the ongoing support provided by maintenance contracts. Otherwise, every integration would be an in-house expense or would be impossible because of differing data models.

Simultaneous Upgrades

With an integrated system, all framework components—including modules and core HR—upgrade simultaneously. If niche products are involved, on the other hand, random upgrades of individual components multiply, requiring painstaking point-to-point integrations for each data feed. Niche products mean an increase in labor costs, and potentially hardware and software costs could rise as well. These are a few of the many reasons adding a niche product is risk-laden.

Common Security Model

Aberdeen has found that one of the requirements for achieving best-in-class performance is to "recognize the importance of the data contained within an HR System, and work to secure it." Security is an IT issue with a powerful impact on business value and productivity.

The integrated framework provides the following security benefits and more. Easy to set up and maintain, they apply across all HR modules and functions.

- **Login security and single sign-on:** Users sign on once within a secure environment and are automatically authenticated for all applications they are allowed to access.
- **Security roles and permissions:** All modules and functions in the framework tie into a single interface from which to set up security roles and permissions, which can be viewed at a glance. Users see and access only what their individual roles and permission levels grant them.
- **Workflows and approval processes:** Defined and set up at the same time as security roles, workflows and approval processes ensure proper task routing among departments. For example, a job requisition might need approval from a regional recruiting administrator and then by the department VP.

The above do not apply to any niche products in a system. These make duplication of effort inevitable because each feature must be created, used and maintained separately. The risks of security gaps and breaches also increase when adding niche solutions. Single-vendor accountability within the integrated talent management framework means every application has the same security architecture, reducing administration efforts, speeding roll-outs and improving overall system security.

CONCLUSION

Due to hasty decision-making or lack of information, an HR organization might add a niche offering to the core HR system to solve a talent problem. The product then fails to integrate or integrates poorly with core HR and other HR applications. As a result, HR loses decision-making accuracy, workforce awareness and the ability to leverage consistent data across business processes. Multiple competency models, loss of functionality, poor user adoption and system disconnects diminish the impact of HR's efforts to manage talent.

The integrated talent management framework solves immediate people-problems while establishing a foundation for resolving critical issues on an ongoing basis. Some of the key issues addressed include driving productivity and profitability, maintaining alignment with business objectives and optimizing overall organizational performance. Native integration and a single data source equip HR with consistent employee data and information, enterprise-wide line-of-sight visibility and insight for decision-making. The framework also solves the plethora of technology problems that plague organizations with a heterogeneous mix of vendors.

The framework empowers HR practitioners as strategists so they merit an influential seat at the executive table. Integrated talent management is an effective solution for today and an extensible solution for tomorrow. Instead of scrambling for short-term fixes, HR can now establish lasting solutions and build credible, long-term strategies that support desired business outcomes now and in the future.

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STUDY OF HUMAN RESOURCE MANAGEMENT IN MICROFINANCE INSTITUTIONS WITH SPECIAL REFERENCE TO MAHARASHTRA STATE (2012-2017)

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Abstract
Formulation of Problem Some MFIs such as Equitas, Ujjivan, Janalakshami and others have set up strong HR systems and practices over time; however other MFIs still need to invest in this area. Post the crisis, due to the RBI's guidelines for NBFC-MFIs to comply with (particularly the stipulated margin cap), MFIs are further constrained to reduce costs with obvious implications on costs of hiring, training and retaining human resources. Hence, a study on current human resource practices in MFIs in India, to document best practices that can enable replication, identify gaps, highlight challenges and provide recommendations on areas that need MFI as well as sector investment to bolster this agenda was thought of by the researcher. Thus whether the HR Management area is growing at the pace so that it can equip the growth rate of Microfinance Institutions comfortably is the basic research problem for the current research.
Keyword: MFIs, Human Resource Practices, Microfinance Institutions

Introduction
In the recent years, most of the countries across the globe are in a sweeping mood to promote microfinance not only as a positive rural development intervention but also as a rural development solution. As a result, the developmental economists in underdeveloped and developing economies have increasingly become enthusiastic in promotion and development of microfinance as one of the rural development initiatives. The logic of such an initiative is to promote the welfare of the society as a whole by targeting the most talked developmental objectives of poverty alleviation and balanced regional development throughout the country.

In this model, the borrower has to repay the loan in weekly instalments spread over a year. The functioning of Grameen Bank also involves enchanting of "16 Decisions" at the start of their weekly session. These decisions include production of fruits and vegetables in kitchen gardens, investment for improvement of housing and education for children, use of latrines and safe drinking water for better health, rejection of dowry in marriages etc. Although observance of these decisions is not mandatory, in actual practice it has become a requirement for receiving a loan which eventually increased the sustainability of the borrowers.

Until the banks in India were nationalised in the year 1969, co-operative banks were the only banks that provided small and medium loans to the economically underprivileged sections of the society. Till then, small borrowers did not have any other source of financial assistance. In those times, loan applicants had to furnish some form of security to the bank. They also had to make arrangements for a guarantor in order to apply for a loan. The chief objective of banking was profit, which is still prevalent in today's commercial

banks. Institutions offering microfinance started to emerge and began to change this only profit-oriented banking scenario. Nationalisation of banks in later period also changed the prevelling banking setup and started to build branches in different rural parts of the nation.

Review of literature

Bi and Pandey (2011) studied and compared the financial performance of select 24 MFIs and commercial banks in India and analysed the profitability, financial structure and efficiency of MFIs in India. They used some financial ratios for their study and the ratios are capital adequacy ratio, debt equity ratio, return on assets, return on equity, net profit margin and operating expenses. They found that there is a lot of difference of means of the financial ratios between MFI and commercial banks.

Janda and Turbat (2013) found the key factors of earnings activities of micro finance institutions in Kazakhstan, Kyrgyzstan, Tajikistan, Uzbekistan, Azerbaijan, Mongolia, Afghanistan and China in 1998-2011. The study concluded that lending money to women borrowers improve the working of MFI. It also found as conclusion from the study that different forms of governance of MFI and different macroeconomic factors also impact the financial performance of MFI.

Research Methodology

The research methodology for current topic is mentioned by keeping the Objective and Hypothesis for the current study in mind. Research Methodology is presented simultaneously with two parts, one dealing with general aspects and theoretical explanation of Research and the other one which deals with practical approach with reference to the current research topic.

Objectives of Study

1. To review Human Resource policies, systems and practices of Micro Finance Institutes in Maharashtra state with respect to industry as well as relevant corporate standards.
2. To study, identify and highlight strengths, gaps and challenges in Human Resource Policies adopted by Micro Finance Institutes in Maharashtra State.

Hypothesis

H0: Human Resource policies and practices adopted by Micro Finance Institutes in Maharashtra are not in tune with the industry & relevant corporate standards.

H1: Human Resource policies and practices adopted by Micro Finance Institutes in Maharashtra are in tune with the industry & relevant corporate standards.

Research Design:

Research design is defined as a framework of methods and techniques chosen by a researcher to combine various components of research in a reasonably logical manner so that the research problem is efficiently handled. It provides insights about "how" to conduct research using a particular methodology.

Data analysis

To review Human Resource policies, systems and practices of Micro Finance Institutes in Maharashtra state with respect to industry as well as relevant corporate standards.

Employees being the drivers of the organization, they become one of the most important stakeholders in the MFI. This being an HR study some of the major aspects which affect the employees have been studied and observations are included. In large MFIs, HR Manual

and policies were in place and contained almost all the important policy elements while in small MFIs, HR policies were in place covering fewer aspects. Thus, the objective was to find whether Staff of Microfinance Institutes is satisfied with the Human Resource Policies adopted by Microfinance Institutes in Maharashtra State.

Satisfaction – HR policies

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	96	19.2	19.2	19.2
	Disagree	168	33.6	33.6	52.8
	Can't Say	29	5.8	5.8	58.6
	Agree	120	24.0	24.0	82.6
	Strongly Agree	87	17.4	17.4	100.0
	Total	500	100.0	100.0	

The above table shows that 33.6% disagree when asked Staff of Microfinance Institutes is satisfied with the Human Resource Policies adopted by Microfinance Institutes in Maharashtra State and 17.4% strongly agree to the same and other opinions lie between them.

Satisfaction HR policies * Gender

In many MFIs, gender-related policies and safety policies are not in place. Although most of the MFIs had Grievance Cells for the clients; very few have a specific system for handling grievances of the staff. In smaller MFIs, grievance-handling procedure is limited to circulating the Email ids and telephone numbers of HR department.

Crosstab- Satisfaction HR policies * Gender				
Count				
		Gender		Total
		Male	Female	
Satisfaction HR policies	Strongly Disagree	84	12	96
	Disagree	133	35	168
	Can't Say	22	7	29
	Agree	97	23	120
	Strongly Agree	78	9	87
Total		414	86	500

The above cross tabulation show the gender wise distribution over the question asked about HR policy satisfaction for which 133 male and 35 female disagrees from total 414 male and 86 females and 78 males and 9 females strongly agrees and other opinions lie between them.

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	7.223[a]	4	.125

Ho: There is no significant Difference in agreement level regarding HR policy satisfaction with respect to gender

H1: There is significant Difference in agreement level regarding HR policy satisfaction with respect to gender

Since sig value=0.125 is greater than alpha=0.05. Thus, do not Reject Ho. This implies that there is no significant Difference in agreement level regarding HR policy satisfaction with respect to gender.

Satisfaction HR policies * Educational Qualification

Crosstab Satisfaction- HR policies * Educational Qualification

Count

		Educational Qualification			Total
		Below 12 th	Graduate	Post Graduate	
Q24SatisfactionHRpolicies	Strongly Disagree	11	69	16	96
	Disagree	25	112	31	168
	Can't Say	2	21	6	29
	Agree	23	77	20	120
	Strongly Agree	16	47	24	87
Total		77	326	97	500

The above cross tabulation show the education qualification wise distribution over the question asked about HR policy satisfaction for which 25 staff from group below 12th, 112 staff from group Graduate and 31 staff from group Post graduate and above disagrees from total of 77, 326 and 97 of respective age groups. Others opinion are shown in the above table.

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	10.540[a]	8	.229

Ho: There is no significant Difference in agreement level regarding HR policy satisfaction with respect to Qualification.

H1: There is significant Difference in agreement level regarding HR policy satisfaction with respect to Qualification

Since sig value=0.229 is greater than alpha=0.05. Do not Reject Ho. There is no significant Difference in agreement level regarding HR policy satisfaction with respect to Qualification.

Conclusion

Microfinance business requires a very high HR content. Field-staff constitutes about 60 to 70 per cent of the staff strength. In MFIs, hiring new staff is an important and almost continuous function. Hiring has been a challenge for most of the MFIs at both field and operational level and at the management level. More issues are concerned with the young and emerging MFIs.

Microfinance has historically focused on serving poor women clients and is recognized as a powerful tool for empowering women. Many institutions understand that female staff are able to establish rapport with the clients and can serve as positive role models. MFIs which have more women Field Officers, believe that women are more loyal, dedicated, sincere and dependable. Some of them had purposefully recruited women at the base-level. This trend is seen more in NGOs turned MFIs such as Annapurna, Madura, ESAF, and Samhita etc.

Considering the employees turnover, Microfinance companies are very cautious while appointing new employees. Few of the MFIs such as Annapurna, Sahayog, Samhita, Ujjivan etc., made it mandatory for the candidates to visit the Branch Office and the field before selection process. Many MFIs conducted written tests to evaluate the aptitude, language proficiency, arithmetic proficiency etc. Minimum cut-off is prescribed for passing and moving to the next level.

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Effect of Creativity Management in the Business Process Management

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Abstract

Creativity is the most important factor in the management. It can help to boost management practices adopted by any organization. Succession management has become an important talent management initiative at companies around the world. For some companies, succession management is a strategic process that minimizes leadership gaps for critical positions and provides opportunities for top talent to develop the skills necessary for future roles. This paper focuses on the effect of creativity management in the business process.
Keywords : creativity management, business process, talent management

Introduction

"Our people are our greatest asset." The sentiment is ubiquitous, but translating this management rhetoric into practice can be a stumbling block even in the best of times. Yet even now—with a beleaguered economy still in the tentative, early stages of what could be a long road to recovery—it is more important than ever for managers and organizations to help employees manage their work and personal lives. Knowledge-intensive Processes are characterized by the involvement of what is commonly referred to as knowledge-workers (Davenport, 2005). Usually these processes are complex, unpredictable, and, as a consequence, difficult – if not impossible – to model in terms of their process flow. There is a vast body of knowledge on how knowledge-workers may be supported to carry out their tasks within such business processes. As Harmon states, knowledge workers "create special problems for anyone who tries to analyze the processes that employ them" (Harmon, 2007). He introduces a continuum where "ordinary workers" work on simple procedural processes, knowledge-workers on more complex processes, and so-called experts work on unique and extremely challenging processes. Harmon characterizes a knowledge worker as someone who "employs a few hundred rules to solve the problems he or she encounters" (Harmon, 2007). Thus, knowledge workers apply processes of convergent, rule-based thinking to solve their problems. Experts, on the other hand, usually work on problems that require very complex cognitive networks employing a vast number of rules and, in many cases, they step into new territory; i.e., the required rules, procedures, and business partners do not even exist.

We propose to add another role of stakeholders: creative people. Classifying creative people as a subtype of experts is not entirely true and sufficient. A person does not necessarily need to be an expert with many years of experience to be creative, yet may be working on a highly complex and creative task. Creative people usually perform processes that are very much characterized by *divergent thinking* (Runco, 2007). Of course, there is a continuum between convergent anddivergent thinking, and most situations require both (Eysenck, 2003). That expertise actually does play a role in being creative is enforced by (Amabile, 1998) who identifies *motivation*, *expertise*, and *creative thinking* skills as the main factors that enable people to be creative. But even though expertise is an important

aspect, it is surely not the sole or even the most important source of creativity. Creative individuals have to find solutions in complex processes requiring information, intensive communication, and creative freedom. Moreover, creativity in business processes also leads to particular (creative) risks, requires particular incentive systems, and demands good knowledge of the involved creative tasks and their consequences to allow the process owner to successfully allocate resources without compromising creativity where it is most needed.

Creative people and their processes play a prominent role in business processes as organizations seek to deploy the merits of business process management to more than just the set of transactional processes. Product development and marketing campaigns are just two examples of such creativity-intensive processes that increasingly find their way into the agenda of process managers. Besides this, there are entire and quickly growing industries designed around creative processes, with the entertainment industry being the most prominent example of a creative industry. Whether as a key process in the creative industries or as a complementary process in non -creative industries, creativity-intensive processes have one element in common: they consist of *pockets of creativity*. A pocket of creativity is a subset of a business process in which the input of creative personality is required to solve a creative task. Even more, these pockets of creativity are sections where the organization distinguishes itself from competitors, creates innovation, and gains competitive advantages.

It is important to note that creative processes often are not necessarily processes that occur only once, like the design phase of a new product. They actually might be executed quite frequently. Let's consider a visual effects company producing hundreds of frames and animation sequences per year. Every sequence may involve highly creative acts involving divergent thinking. Although a particular task (designing a skeleton, designing movements) may seem straightforward to the observer, it actually is a highly creative task and may massively impact the outcome of the overall business process. The notion of pockets of creativity helps to pinpoint those process parts that have high requirements regarding creativity management while the remaining parts of a process could be approached by "conventional" BPM wisdom.

Consequently, we like to go a step further and identify, classify, and improve those sections of business processes that are not only knowledge-intensive but also highly creative in nature. It may seem appropriate to view these sections as "black boxes" as the underlying processes are complex and hard to predict. However, we argue that this approach would not be sufficient and leaves too much to the individual conducting the creative task. Based on the awareness that pockets of creativity have a significant impact on business processes we believe that it is necessary to create more transparency. We do not aim to model and prescribe the process flow, as in many cases this might prevent people from being creative. However, we propose to identify how creative tasks are characterized, how creative tasks can be supported, and how they can best be integrated into their part of the overall business process. Moreover, we believe it is necessary to develop new metrics that allow the successful management of pockets of creativity. Managing creativity within business processes is a great challenge for process owners. One needs to ask questions such as "How much creativity should be allowed for what task?", "What are the consequences of allowing too much creativity?" or "How can the risk arising from creativity be mitigated?"

Consequently, we introduce the notion of creativity-intensive processes as a subtype of knowledge-intensive processes that are characterized by the involvement of creative people who produce creative products, often largely depending on divergent thinking. Creativity-intensive processes involve pockets of creativity that are crucial elements of business processes directly related to an organization's success and innovativeness and can lead to particular problems the process owner is facing.

How Does Creativity Impact BPM?

When managing creativity-intensive processes, it is necessary to distinguish two main perspectives: task-level (or activity-level) analysis and process-level analysis. The task-level perspective pertains to the questions of how pockets of creativity are characterized and how they can be supported. In contrast, the process-level perspective takes a look at the overall business process; as mentioned earlier, the existence of creative tasks within a business process significantly affects the process as a whole.

In the following we introduce some typical scenarios in which creativity impacts business processes and their management. This is then followed by a section where we describeexemplary actions and strategies that can be implemented to deal with challenges that arise from the existence of creative tasks within business processes.

- **Allocating resources (task-level, process level):** Let us consider a process in the filmindustry comprised of both creative and non-creative tasks; e.g. the development of an animation sequence. The particular creative tasks are resource and time-intensive. Thus, the process owner has to decide what resources (budget, equipment, creative individuals) have to be allocated to what task. She has to deal with a quite complex situation: First, it is necessary to identify where the actual creative tasks are within the process and how they integrate into the process. Second, the process owner needs a good understanding of how the task is characterized (who should be involved, what capabilities are required, what communication is required, is the task knowledge-intensive? etc.). Third, the process owner has to estimate the impact of the task on the overall process performance considering what can be referred to as the task's creative impact. Based on this, she can decide how much time, budget, and freedom are granted to alter process and product.
- **Enhancing creativity (task-level):** After having identified a particularly important task forthe overall process (a task with particularly high *creative impact*), the process owner may want to enhance the quality of the creative product as the core output of that task. Having identified the characteristics of the task, strategies can be developed to support it in the best possible way. Typical questions: Should creative people meet face to face? Should we include a brainstorming session? Should we provide access to a knowledge base? All these questions depend on the characteristics of the creative tasks (who is involved, what type of creative task, etc.). Creativity could relate to the generation of a new idea, the evaluation of alternative proposals, or a selection process. A key difference with "'conventional" knowledge-intensive tasks is that enhancing creativity means to foster, in particular, divergent thinking, which can lead to the generation of truly creative products but may also produce unwanted risks.

- **Managing creative risks (task-level, process-level):** Creative tasks are inherentlyconnected to high variance of possible outcomes, which is due to the fact that being creative means to be original and come up with novel ideas and solutions. This may lead to unwanted consequences, such as losing control of process (losing control of time and budget), low product quality (which may lead to customer dissatisfaction), and lack of external compliance (which can lead to a loss of reputation or even to lawsuits). This is again of particular relevance in the film industry when the customer is often unable to specify the requirements and the visual effects studio, for example, has to provide a set of iterative solutions to get closer to the actual requirements. At the same time, the company has to keep control of time and budget and to comply with external requirements such as governmental policies and legal requirements (e. g., a scene must not be too sexually explicit for a particular target audience). The identification of creative tasks and their attributes within a process is the prerequisite to successfully implementing risk management strategies. Prominent examples of how to mitigate (creative) risks are appropriate review cycles. In this context a number of questions arise: Where within the process should be reviewed? Who should be involved within the review cycle? Where is formal approval needed? Should people meet physically to discuss the artefact? Can we distribute a digitized artefact for evaluation? Again, these decisions highly depend on the characteristics of the creative task as well as on the characteristics of the involved creative and non-creative persons. There is a particular challenge from the perspective of human performance analysis: What are the *creative capabilities* of particular persons? Where in the process can a person be involved to be able to actually evaluate the creative product? On a task level, the process owner can consider particular creativity techniques as well as knowledge management support and the allocation of other resources such as time and budget to avoid creative risks beforehand (risk avoidance).
- **Enhancing process performance (process-level):** As mentioned earlier, creativity-intensive processes are characterized by a high demand for flexibility. That is, conventional process automation approaches such as workflow management or even more sophisticated approaches such as exception handling or evolutionary workflow solutions may not be appropriate. However, processes may be comprised of both well-structured parts and pockets of creativity that may not have any obvious structure at all. Identifying and better understanding these pockets of creativity therefore allows for designing an IT solution that can provide a maximum level of automation where it is suitable. However, we strictly recommend not trying to conventionally "model" and automate the creative parts of the processes in the conservative sense, as typical methods do not cater to the specific requirements of creativity. What is needed is rather a resource-based, data-driven perspective that does not impose too many constraints on the process. The aim has to be to "manage creativity without sacrificing creativity." The examples show that there are numerous problems creativity-intensive processes create for process owners. We summarize different facets under the term c*reativity-orientedBPM*. Figure 1 provides an overview about the key requirements of such processes.

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Figure 1. Facets of Creativity-oriented BPM

Managing Creativity-intensive Processes

Facilitating transparency by identifying pockets of creativity is only a first step on the way to managing creativity-intensive processes. The process owner has to be equipped with appropriate actions and strategies. As indicated earlier, the different strategies/actions apply on two different levels: task-level and process level. However, in reality, this distinction may not always be that clear-cut. Undoubtedly, there is a close relationship between the two areas. In the following, we provide an overview of some examples. As mentioned earlier, creative thinking, expertise, and motivation are the main factors that influence people's creativity. Particularly the strategies and actions that we propose on task level aim to enhance creativity by targeting these properties of creative persons. At the same time, it is necessary to provide means to manage the overall process considering aspects such as process performance, cost, or risk.

Strategies/actions on task level:

- **Creativity techniques:** Creativity techniques can be applied to enhance the creativepotential of a task. What creativity techniques can be applied depends on the type and characteristics of a pocket of creativity. Examples for different types of pockets of creativity are *generation* (an artefact [e.g., a product] is designed), *evaluation* (creative evaluation of an artefact), and *selection* (selection of one or more artefacts out of a number of artefacts). Advanced BPM tools could potentially provide a set of pre-defined process patterns that capture alternative creativity techniques (e.g., the process of a brainstorming session).
- **Knowledge management:** Creative tasks are knowledge-intensive. There is a closerelationship between a person's knowledge and a person's ability to be creative (Weisberg, 1999). For example, a creative director said to us, "Everything you draw on, everything I draw on in my creativity comes from somewhere. So it's already been created somewhere." Thus, for every pocket of creativity, you will want to consider what type of knowledge can be made available (e.g., technical guidelines on how to use a tool, previous experiences for a type of task, artefacts that have been created earlier

and that can now be used as reference material). A particular challenge lies in fostering both convergent and divergent thinking by knowledge management in order to allow people to be truly creative.

- **Resource allocation:** Pockets of creativity are crucial to an organization's success.Therefore, the allocation of resources should be based on the analysis of the impact different pockets of creativity have on the overall process performance and on the quality of the creative output. Identifying task characteristics is the prerequisite for resource allocation including time and budget as well as the appropriate equipment and creative persons.

    - **Job Assignments (allocation of people):** As Amabile notes, "one of the mostcommon ways managers kill creativity is by not trying to obtain the information necessary to make good connections between people and jobs" (Amabile, 1998). The right assignments of jobs to creative people are crucial to success. The identification and characterization of pockets of creativity and of their impact and of the demanded skills provides the process owner with a more complete picture of the overall process and allows better job assignments.

    - **Team Building (allocation of people):** Whereas homogeneous teams mayproduce quick results in very efficient ways, heterogeneous teams may take a longer time but come up with truly creative results (Amabile, 1998; Runco, 2007). Thus, based on the creative impact that the process owner expects from a particular task, she might favor for heterogeneous teams that may foster divergent thinking (compare also the strategy of *allowing latitude / freedom*) or homogenous teams where high process performance is required and not so much creativity. Another important aspect is that of group size as larger groups tend to inhibit creativity more than smaller groups do (Runco, 2007).

    - **Time Allocation:** Time is a central resource and deadlines need to be consideredthoroughly: Whereas some tasks, such as the exploration and development of new concepts, require substantial time for incubation (Osborn, 2001), in some cases time pressure can even enhance creativity as it can increase a creative person's motivation (Amabile, 1998; Runco, 2007).

    - **Other Resources:** Assigning the required resources influences the creativeoutput. If no sufficient resources (including budget) are allocated, people may spend their creativity on finding additional resources instead of on being creative (Amabile, 1998). At the same time, adding additional resources above a "threshold of sufficiency" (Amabile, 1998) does not enhance creativity but can increase process cost. Again, the identification and characterization of pockets of creativity throughout the process landscape sets the baseline for resource allocation. If creative tasks with high impact on the overall process success lack resources, this may fundamentally hamper an organization's creativity and success.

- **Allowing latitude / freedom:** Allowing freedom for a particular task increases varianceand decreases predictability. This leads to greater creative potential but

also to greater risk. The process owner has to carefully decide what freedom she allows for each and every task to achieve high creativity and innovation while still everybody works towards one aim. As Amabile puts it, autonomy "around process fosters creativity because giving people freedom in how they approach their work heightens their intrinsic motivation and sense of ownership. Freedom about process also allows people to approach problems in ways that make the most of their expertise and their creative-thinking skills." By defining pockets of creativity and setting up goals and constraints it can be ensured that creative persons are actually granted the freedom where it is needed while they do not have to "diverge at their own risk" (Amabile, 1998). Possible constraints are deadlines, clearly defined outputs (such as a certain number of alternative artefacts, etc.), review processes, and regular communication among creative persons and stakeholders. Obviously, there is a connection to the resource perspective as the allocation of resources such as time and budget plays a crucial role in allowing latitude and freedom.

- **Incentives / consequences:** Motivation is one of the main factors that influences aperson's creativity (Amabile, 1998; Runco, 2007). We expect that incentives for creative people with their own sense of creativity and aesthetics are different from established incentives. For example, there is a close relationship between creative freedom and motivation. As we have stated earlier, creative people's motivation may be fostered by means such as allowing them freedom or even putting them under time pressure. It is important to note that monetary incentives in most cases are not the sole source of motivation to enhance people's creative power. Another important source to enhance intrinsic motivation is information sharing and collaboration. Here, process management can serve as a facilitator as the identification of pockets of creativity and their required knowledge helps to understand where knowledge is created, where it is stored and located, and how it is transferred and applied.

Strategies / actions on process level

- **Approval processes / reviewing processes:** Approval processes are a means toensure that the creative product meets the requirements. It can be distinguished between quality assurance (technical aspects) and creative reviews (Does the product meet the creative expectations?) Approval processes are quite a complex strategy, as the process owner has make different decisions, such as "When should the approval happen?" "Who should be invited/ involved?" "Do we have to meet physically?" This is strategy on the process level that requires identification of pockets of creativity and the particular (creative) risks due to a high variance of possible outcomes.

- **Flexible process automation:** Depending on how pockets of creativity integrate into theoverall business process, flexible workflow support can be implemented. Normally, creative tasks are associated with a great number of potential exceptions that may occur. Modeling every possible exception may lead to an over-engineered and hard to manage model. Consequently, approaches such as exception handling (Casati et al., 1999) or even case handling (v.d.Aalst et al., 2005) should be considered. Moreover, recent Web 2.0 technologies such as widgets and blogs can

be integrated to build more flexible infrastructures supporting the particular requirements of creative teams in rapidly changing business environments.

- **Group communication systems / continuous communication:** Communication isessential for creativity (Kristensson&Norlander, 2003). A thorough understanding of the pockets of creativity within a process and their interrelations in terms of information flow allows designing appropriate communication strategies (face-to-face meetings versus asynchronous media, etc.). Continuous communication ensures that the project team works towards one aim. Thus, this strategy aims to mitigate variance that may be caused by weak requirements specifications as well as creative freedom.

Managing creativity needs to be an integral part of the process of process management. We propose to integrate the following steps into this process:

(1) **Identification of the main creative and non-creative tasks:** The first addition toclassical BPM projects would be an early tagging of the creative tasks within the business processes. That is, within the process, pockets of creativity are identified. To enable the identification of suitable actions/strategies to deal with the phenomenon of creativity, the identified pockets of creativity are characterized (what skills are needed, who is involved, what communication is needed, what is the creative impact on the overall process).

(2) **Task-level-analysis:** Task-level-analysis focuses on human performance analysis with aparticular concentration on how creative performance can be supported. In contrast to conventional knowledge-intensive tasks, in pockets of creativity divergent thinking plays a prominent role. The process owner has to further decide what level of creativity she allows on the task level. This can be moderated by the freedom creative people have to alter product or process. As creative products are characterized by novelty and appropriateness, these decisions are crucial in regard to the quality of the process output.

(3) **Process-level-analysis:** Actions/strategies on process-level include support ofcommunication, process re-design and process improvements, approval and review processes, etc.

(4) **Monitoring:** As with conventional process lifecycle models, creativity-intensiveprocesses require monitoring and controlling procedures. Though it is unlikely that this will take the form of log-based process monitoring and advanced dashboards, it is required to capture the success of certain resource and data allocations to certain types of pockets of creativity in order to facilitate reuse in future similar scenarios.

Conclusion :

It is found that many organizations are spending a lot of energy creating succession plans, but few are able to integrate succession management in all company operations and among

all levels of employees. We learned that the companies struggle most with identifying employees with high potential, development planning and global implementation. Creativity is not only the prerequisite for innovation and, thus, a core competitive factor in contemporary organizations. Creativity influences business processes and the way we conduct business process management. We have described typical scenarios in which creativity impacts business processes and their management. Moreover, we have presented exemplary strategies and actions that organizations apply to deal with the phenomenon of creativity to enhanceprocess performance and quality of creative products. We believe it is both relevant and timely to take a closer look at the role that creativity plays within business processes and how it can be managed. Existent modeling techniques, software tools and management practices may support some of the important aspects in this context. However, until now there is no comprehensive approach on how to manage creativity from a business process perspective. With this paper we would like to set the baseline for a discussion on the notion of the creativity-intensive process.

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A STUDY TO DEVELOP FACE RECOGNITION USING PCA, NEURAL NETWORKS AND WAVELET

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Abstract

A method to improve the precision of the face recognition with hehelp of an integrating of WT, PCA and neural networks has been presented in this paper. The three main critical issues for face recognition are- preprocessing, feature extraction and classifying rules. A hybrid approach for employing the three issues has been presented in this paper. A combination of wavelet transform (WT) and PCA has been used for preprocessing and feature extraction. Neural Network is discussed for achieving a fast decision in the presence of variety of facial expressions, in the classification stage. Overall, improvisations in the proposed method's accuracy is done.

INTRODUCTION

The authentication of users have been increasing in the past few years, because the requirement of security is omnipresent. originally, identification cards and passwords were popular for proving authenticity, though security through these methods is not very reliable. The latest interest of the researchers are authentication technologies based on biology, such as the ones that use iris, fingerprint, face, print of the palm and voice.

Face recognition has gained popularity, largely because the process of authentication is done in a hands free way, without interrupting the activity of the user in any way. also, it is economic due to the low cost of the cameras and computer. Psycho-physicists and neuroscientist have focussed on issues like face uniqueness, organisation of face memory and the perception of faces by infants in the past 20 years. At the same time, engineers have studied, developed and designed algorithms of face recognition in the lsat 20 years. This paper focusses on the work of the engineers. Content based approach and face based approach are the two approached of face recognition system done by the computers.

The relationship between the face boundary and facial features like nose, eyes, mouth are used in the content based approach. A huge classification error can be committed in the process of derivation, since all the human faces have features that are similar.

In the face based approach, the face is captured as a whole and is treated as a 2D pattern. The face is matched with the statistical regularities. Principal Component Analysis (PCA) is a face based approach, which has been proven to be effective.

Karhunen- Loeve (KL) transform was proposed the representation of human faces by Sirovich and Kirby. The faces are represented with the help of eigenfaces, which are the linear combinations of weighed eigenvector, in this method. However, a system of face recognition that makes use of the PCA has been developed by Turk and Pentland. But, this method is not free from limitations. The two limitations of this methods are large load of computation and poor power of discrimination. The measured similarity between 2 pictures of the same individual by using the PCA method is high. However, the measured similarity of 2 pictures of different people is also high. Therefore, the discrimination power of this PCA method is very poor.

This drawback of PCA was improved by addition of Linear Discriminant Analysis (LDA) by Swets and Weng. A different method for selection of eigenfaces was suggested by O'Toole et al. they stated that the eigenvectors which have large eigenvalues is not the best method to differentiate face image. It was also presented by them that the representations of low dimension are efficient in identification of physical features of the face, like race and gender even though they might not be the best way for the recognition of human faces.

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Heavy load of computation in the process of finding eigenvectors is another problem in PCA based method is the h. The typical value of computational complexity of $O(d^2)$ is 128x128, where d= number of pixels. The cost of computation is beyond many existing computer's power. However, Matrix Theory tells us that if the number of training images (N) is smaller than the value of d, the complexity of computation will be decreased to $O(N^2)$. Then also if N will increase the load of the computation is increased in cubic order. A new approach in the application of PCA in the light of the already existing PCA approach has been proposed here. It is proposed that in this method, the image is decayed into many sub bands using the wavelet transform with many frequency components.

The results have shown that the 3 level wavelet has performed well in face recognition. The method which has been proposed in this paper doesn't work on the image resolution of 128x 128, but on a lower resolution of 16x16. Hence, the computational complexity is reduced significantly for many applications, where the training images are more than 16x16. increASed accuracy in the recognition and better discrimination power was observed when PCA was applied on wavelet transform (WT) than when PCA was applied on the entire of the original image.

REVIEW OF PCA

Some major details of PCA are as follows :

Let $X = \{X_n, n = 1,..., N\} \in R$ be an ensemble of vectors. When dxd is the product of width and height of the image, the row concatenation of the data of the image is form in the applications of imaging.

Let be the average vector in theensemble $E(X) = \frac{1}{N} \sum_{n=1}^{N} X_n$

After subtracting the average from each element of X, a modified ensemble of vectors, $X=\{X_n, n=1,...,N\}$ with $X_n = X_n - E(X)$ is received .

covariance matrix M for the ensemble X is definedby $M = \text{cov}(X) = E(X \otimes X)$, Where M is $d^2 x d^2$ matrix, with elements.

It is a well known fact of the matrix theory that matrix M is always positive and will only have eigenvalues that are non negative. The matrix M of the eigenvectors form a basis for Rdxd. This basis is called K-L basis.

The eigenvectors in K are arranged in a descending order of eigenvalues in many applications. In order to compute the dxd eigenvalue from M, 2xd2 matrix has to be solved. In most chances, d=128, hence 16x16 matrix is solved for calculating the eigenvectors and eigenvalues.

Computer system's requirement for the memory and computation are very high. Matrix theory states that if N<dxd, that is N, which is the number of training image, is smaller than M, the computational complexity decreases to O(N). Therefore the implementation of PCA in characterising the faces has become flexible. The number of training images in most researches is around 200. But the M rises when the total number of training images in huge, such as 2000.

An image's Wavelet decomposition

In last 10 years, WT has become a useful tool in the analysis of the image. In this paper, WT has been chosen as the option of choice for image decomposition because-

- The resolution of the sub images are decreased when an image is decomposed by using the WT method. so, the computational complexity also decreases because it operates on an image which has a low resolution. It was observed by Harmon that a resolution of 16x16 is enough for human face recognition. When compared to the original image having a resolution 128x128, it leads to a reduction off the sub image by 64 times, thus implying a reduction on the computational load of 64 times.
- The images are decomposed into sub bands which correspond to various frequency ranges under the WT method. The computational overhead is minimised as the sub bands readily meet the input requirement in the system proposed in this paper.
- While the Fourier decomposition support only the global information in the frequency domain, the WT method of decomposition of images provides local information in domains for both frequency and space.

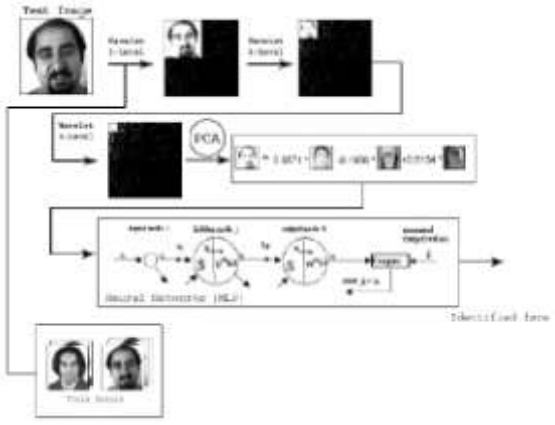
In this paper, we applied two well known mother wavelet Daubechies and Haar.

We proposed method that uses by coefficients:

h0 = 0.48296291314453 h1 =0.83651630373781
h2 = 0.22414386804201
h3 = 0.12940952255126
For daubechies mother wavelet and coefficients:
h0 =0.5,h1 =0.5

Proposed Method

In order to overcome the limitations of the PCA method, this wavelet based PCA method has been developed. also, utilisation of neural networks have been used for classifying faces. A multilayer architecture was adopted, which is fed by the vectors formed by combining wavelet and PCA and decreased input units. Using a particular frequency band of an image of the face for PCA for solving the first problem of PCA has been proposed.



Using a reduced resolution image for dealing with the second limitation of the PCA has been proposed. The proposed system has two stages. one, "training step" in which extractions of features, reduction of dimensions and adjustment of weight of MLP neural networks is done. Second, "recognition step" for identifying the unknown images of faces.

In the "training stage", "feature extraction of reference images" and "adjusting the neural network parameters" is included. In interested domain, the "representational basis" of the images is identified in feature extraction. Then, input image is translated in accordance with the representational basis (which have been identified in the training stage) in the "recognition stage".

The 3 important steps in the "training stage" are-

1. For decomposing the reference images, WT is applied. Then, by the decomposition of the wavelet in three levels, sub images of 16x16 pixels which have been obtained, are selected.
2. For obtaining a set of representational basis, by selecting d' eigenvectors which correspond to large eigenvalues and sub space projection, PCA is applied on the sub images.
3. The obtained features of the reference images in the precious step are then used for training neural networks with the help of propagation algorithm. The processing carried out in both the training and recognition stage is similar, the only difference being in the recognition stage, the input unknown images are matched with reference images in the recognition stage. WT and PCA are used for transforming the unknown face images intro the representational basis when an unknown face is presented in the recognition stage.

Experimental Result

The database of face image of Yale university and face database of ORL is used for evaluating the the method that has been proposed in this paper.

All the images in the database of Yale university have a 160x121 resolution. But the WT can't be applied as the images' dimension are not the power of 2. The images were then cropped to 91x91, and hen resized in 128x128. A third level of WT decomposition was use for changing the resolution of images.

Table 1 and table 2 show the results of the proposed algorithm on the database of Yale university and database of ORL, and have used the hair mother wavelet. The results of the proposed algorithm in the database of Yale and ORL which have used Daubechies mother wavelet has been shown in table 3 and 4. The performance in recognition on the test image of the Yale and ORL database which have used various components have been shown in table 5 and 6.

TABLE 1. Algorithm applied on Yale database and haar mother wavelet.

	PCA on image	PCA on LL band of three level wavelet
Size of image	128*128	16*16
Recognition rate	81.78%	82.2%

TABLE 2. Algorithm applied on ORL database and haar mother wavelet.

	PCA on image	PCA on LL band of three level wavelet
Size of image	128*128	16*16
Recognition rate	90%	91.80%

TABLE 3. Algorithm applied on ORL database and Daubechies mother wavelet.

	PCA on image	PCA on LL band of three level wavelet
Size of image	128*128	16*16
Recognition rate	90%	97.68%

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TABLE 4. Algorithm applied on Yale database and Daubechies mother wavelet.

	PCA on image	PCA on LL band of three level wavelet
Size of image	128*128	16*16
Recognition rate	81.78%	90.35%

TABLE 5. Recognition performance on test images of Yale database using the number of principal components.

Number of principal components	ANN structure	Recog. rate (10 attempts)	Average of recognition
1-15	15:25:15	88.37%	86.56%
1-25	25:30:15	90.35%	89.23%
1-35	35:30:15	89.78%	87.24%
1-45	45:25:15	88.92%	87.68%
1-60	60:35:15	89.67%	88.23%
1-80	80:40:15	85.56%	83.78%
1-105	105:45:15	84.76%	83.67%

TABLE 6. Recognition performance on test imagesof ORL database using the number of principal components.

Number of P.C	ANN structure	Recog. rate (15 attempts)	Average of recognition
1-25	25:40:40	95.37%	94.14%
1-30	30:80:40	94.47%	93.15%
1-35	35:80:40	96.81%	95.45%
1-40	40:40:40	97.68%	96.56%
1-50	50:40:40	96.56%	95.24%
1-100	100:60:40	92.22%	91.72%

TABLE 7. Recognition performance on test imagesof Yale database using MLP Neural networks by 25 of principal components.

Number of P.C	ANN structure	Recog. rate (10 attempts)	Average of recognition
1-25	25:15:15	89.69%	87.56%
1-25	25:20:15	90.06%	89.45%
1-25	25:25:15	90.10%	89.25%
1-25	25:30:15	90.35%	89.23%
1-25	25:40:15	90.05%	87.45%
1-25	25:50:15	90.%	88.34%
1-25	25:60:15	89.86%	87.24%

TABLE 8. Recognition performance on test imagesof ORL database using MLP Neural networks by 40 of principal components.

Number of P.C	ANN structure	Recog. rate (15attempts)	Average of recognition
1-40	40:10:40	89.67%	87.64%
1-40	40:20:40	91.34%	90.78%
1-40	40:30:40	96.99%	94.67%
1-40	40:40:40	97.68%	96.58%
1-40	40:50:40	96.89%	95.24%
1-40	40:60:40	96.57%	95.67%
1-40	40:70:40	95.98%	94.67%

Conclusion

A hybrid approach for face recognition has been presented in this paper, by taking care of three issues. For stages of feature recognition and preprocessing, WT and PCA have been applied in a combined form. And MLP has been explored for quick decision making when there is a wide variety of facial variations in the classification stage. It can be concluded based on the experiments done on Yale university and ORL database that a combination of WT, PCA and MLP yields most favourable performance, because it exhibits the lowest redundant rate, lowest training time and highest rates of recognition.

The proposed method also exhibits the a low load of computation in both the stages- training and recognition.

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Microfinance (SHG) Intervention in Socio-Economic Empowerment of Rural Women: A Study of Mulshi Taluka of Pune District

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Abstract–*Micro Finance enabled development of many economically and socially backward classes in rural areas which were not addressed earlier.Indian rural women are not financially and socially empowered as compared to urban women. There are many schemes and programmes which have been implemented with a view to empower rural women economically and socially. Micro finance or Self Help Group (SHG) is one of the important schemes implemented especially in rural areas. Microfinance is the provision sustainable financial help to lower income rural people for improving the social economic conditions. The study is highlighting the conditions of rural women, specifically. Apart from this, the study also highlights the opinions of rural women regarding Self Help Groups. The results of this study shows that, there are positive effects on the saving capacity, ability to build assets, and social status of rural women members of Self Help Groups.*

Keywords - Microfinance, SHG, socio economic conditions, rural women empowerment.

I] Introduction

Microfinance or Self Help Group scheme is well known as a key strategy in addressing financial development issues, specifically in rural areas. The main objective of the SHGs is to serve the impoverished majority, help them to lift them out of poverty and induce them to participate in their social and economic development. Microfinance interventions to the cities are now well known in Indian rural parts as an effective system for poverty alleviation and improving social economic status of poor rural women. It is making headway in its efforts for eliminating poverty and improving rural women. Therefore, Microfinance or SHGs are, other than banks, operative credit societies, are engaged in provision of financial services to the poor rural women.

Indian rural women play an important role in the domestic and social economic life of the society and thus, development of nation is not possible without development and growth of these rural women of the society. Empowered rural women contribute to the health and productivity of families and society and for improved prospects for the next generation. Therefore, Microfinance or SHGs is considered as an important and emerging trend in the present economic scenario for the empowerment of women. SHGs helps to build mutual trust and confidence between bankers and poor rural women to encourage banking system in those rural areas, where the formal financial institutions like banks, cooperative credit societies etc., are usually find it difficult to reach. Through the study, an attempt has been made to highlight the effectiveness of Microfinance/SHGs on empowerment of rural women. The study also examines whether the financial empowerment has resulted in the generation of self reliant rural women.

II] Review of literature

1) M. A. Ahmad, (1999), has highlighted that the women of Assam are coming to the Administration directly for their rights and to address their grievances boldly. Through the study author has observed that, SHGs are successful in North East India, even in the midst of insurgency. Author has opined that, SHG is a viable organisation set up to disburse microcredit to rural women or the purpose of making them entrepreneur and encouraging them to enter in entrepreneurial activities.

2) S. Gangadhar and P. Malayadri, (2015), have attempted to examine the effectiveness of Microfinance on empowerment of women. Authors have stated that, it is difficult to evaluate the effectiveness of Microfinance or SHGs on woman empowerment because measurement of women empowerment is a difficult task. The findings of the study revealed that Microfinance is a powerful and effective tool in enhancing women's empowerment for its all indicators such as - economic

decision-making at the family level, legal awareness, mobility, financial security and decision-making. Authors have suggested that, future studies should consider the role of demographic variables while explaining empowerment of women.

3) A. G. Modi, K. J. Patel and K. M. Patel, (2014), have attempted to analyse the effect of Microfinance in empowering the rural women. Authors have obtained insights regarding the factors empowering rural women to SHGs and which factors impacts most and to what extent. The results of the study shows that factors like socio economic status, upgradation, position of women in the family/society, autonomy for life choices etc., have significant effect on rural women empowerment. Through the study authors have observed that, SHGs have improved their financial condition and enhanced their ability to contribute in their decisions related to household matters. Now rural women have started to own and contribute to their family expenses.

4) R. Chakraborty and C. J. Jayamani, (2013), have stated that, Microfinance is a tool for empowering poor rural women by mitigating the extreme poverty to uplift them from vulnerable condition to better living conditions. Authors have made an attempt to explore on the questions related to the role of Microfinance as a financial instrument for enhancing women's empowerment through eradicating all the financial and social problems. Authors have observed that, despite the bottlenecks, Microfinance is capable of graduating struggling poor from their shackles and helps to upscale them to a better living and playing an active role in upgrading women empowerment.

5) M. Kapila, A. Singla and M. L. Gupta, (2016), have attempted to examine the impact of microcredit through SHGs on economic empowerment of rural women. Authors have observed that, microcredit facility has significantly improved the financial status of rural women in Punjab state. Due to improvement of financial status, rural women are now taking participation in decision making related to family issues. Authors have opined that, mobilization of women towards SHGs should be encouraged through the process of motivation which will lead to empowerment, and it is necessary for the overall financial development.

III] Importance of the Study

Women represent 50% of the population and receive very less portion of the world's income, hence, it reflects that poverty is a major problem of women and majority of women employees (30% women represent labour force) living under the poverty line. In this context, today's globalised world it is necessary to understand the problems of women, especially rural women in the context of poverty, unemployment and social economic status in the society. Microfinance or Self Help Groups have been involved as an effective system for meeting the socio economic aspirations and credit needs for the poor rural people. Nowadays, participation of SHGs banks could help in overcoming the high transaction costs in providing credit to the poor. Therefore, the present study is important with the view to understand the role of SHGs in the financial empowerment activities and its impacts on the social and economic conditions of rural women members of SHGs.

IV] Objectives of the Study

The present study sets the following objectives

i) To study the social and economic condition of selected SHGs women members.
ii) To understand the extent of monthly saving of rural women before and after participated in SHGs.
iii) To highlight the effects of Microfinance (SHGs) on the socio economic empowerment of rural women.
iv) To understand the opinion of women members of SHGs about impact of Microfinance (SHGs) on their social status.

V] Research Methodology

The present study is an empirical and qualitative investigation. It is based on primary information collected from the SHGs women members, with the help of short and well designed questionnaire; and personal interviews of the respondents (SHG members). Sample size is 216 SHGs members from 7 villages of Mulshi Taluka (Block) of Pune district. Village wise Sample distribution has been presented in the following table.

Village	Number of respondents
Vandre	34
Shindewadi	32
Kashig	29
Lavale	29
Valen	30
Kolvan	34
Uravde	28
Total	216

The information collected from the respondents and other sources has been processed and analysed by using percentagesto examine the impact of Microfinance interventions in socio economic empowerment of rural women.

VII] Results and Decisions

The following tables indicate the socio economic condition of the selected rural women members of the Self Help Groups.

Table No. 1

Age wise distribution of SHG members

Age Group	Frequency	Percentage
Below 25 years	39	18%
25 years to 35 years	58	27%
36 years to 45 years	69	32%
46 years to 55 years	36	17%
About 55 years	14	6%
Total	216	100%

Age and socio-economic activities are related with each other. The young and the middle age people can actively involved in the social economic functions. From the above table it is revealed that, respondents of different age groups are involved in the Self Help Groups. It is found that, in all the study area respondents of 25 - 35 years (27%) and 36 - 45 years (32%) and respondents below the age of 25 years, actively participated in SHG activities. The above 55 years of age respondents (6%) and middle age group i.e. 46 - 55 years (17%) are also involved in the SHG activities and participation is not negligible. The young and the middle age respondents are actively involved in the Microfinance programs.

Table No. 2

Education wise distribution of SHG members

Education level	Frequency	Percentage
Primary education	79	37%
Secondary education	68	31%
Higher secondary education	47	22%
Graduation	13	6%
Illiterate	9	4%
Total	216	100%

Above table depicts the educational level of the respondents. Majority of the respondents (37%) have completed their primary level education. 31% respondents have completed their secondary level education, and 22% respondents are educated up to higher secondary level of education, only 4% respondents are illiterate and 6% respondents have competed their graduation. Therefore, from the above table it can be said that majority of the respondents have at least completed their primary education and are literate.

Table No. 3

Marital status wise distribution of SHG members

Marital Status	Frequency	Percentage
Married	206	95%
Unmarried	7	3%
Widow	3	1%
Divorcee	–	–
Total	216	100%

The above table shows that, majority of the respondents (95%) are married, 3% respondents are unmarried and only 1% respondents are widows. It is inferred that, almost all the SHG members are married and they have joined the SHGs for improving their financial condition and to get respect from their family members and society.

Table No. 4

Occupation wise distribution of SHG members

Occupation	Frequency	Percentage
Housewife	94	44%
Self-employed	44	20%
Service	26	12%
Agriculture labour	52	24%
Total	216	100%

From the above table we come to know that, majority of the respondents (44%) are housewives 24% respondents are involved agricultural work, 20% respondents are engaged in self employed

activities, like vegetables selling, poultry, goat rearing, petty and grocery shops etc., 12% respondents are engaged in government or private employment.

Table No. 5

Household income (monthly) wise distribution of SHG members

Monthly income (Rs.)	Frequency	Percentage
Below 5000	37	17%
5001 to 7000	92	40%
7001 to 9000	67	31%
Above 9000	20	9%
Total	216	100%

The above table shows that, majority of the respondents (40%) are belonging to the monthly income range of Rs. 5001 to Rs. 7000, 31% respondents are belonging to the income range of Rs. 7001 to Rs. 9000. Only 9% respondents are earning above Rs. 9000 per month. 17% respondents' monthly family income is belowRs. 5000.

To understand the extent of monthly saving of the members before and after participation in the Self Help Groups is one of the major objectives of the study. The information collected in this regard is presented in the following table which indicates the monthly saving patterns of the SHG members.

Table No. 6

Extent of Monthly Saving of the Women before and after Participation in SHG

Saving Range (Rs.)	Before participation in SHG		After participation in SHG	
	Frequency	Percentage	Frequency	Percentage
50 to 100	87	40%	72	33%
101 to 500	53	25%	89	41%
501 to 1000	18	8%	36	17%
Above 1000	-	-	19	9%
Not at all	58	27%	-	-
Total	216	100%	216	100%

From the above table it is revealed that majority of the respondents (41%) are now able to save Rs. 101 to Rs. 500 monthly. The percentage of such respondents was only 25% before participation in SHG. Before joining the SHGs, 40% respondents used to save only rupees 50 to 100 per month; and the percentage of such respondents has decreased to 33% after participation in the SHG. Before participation in SHG, 8% respondents used to save Rs. 501 to Rs. 1000 per month but after becoming a member of SHG, the percentage of such respondents has increased to 17%. There were no respondents who would save above Rs. 1000 per month before participation in the SHG, but there are now 9% respondents who save about Rs. 1000 per month after participation in SHG. Before joining the SHG there were 27% respondents who could not save money, but after joining the SHG, the percentage of such respondents reached zero. It shows that, due to participation in

SHG, all of the respondents could save certain amount of money per month. Some of them have increased their savings and some of them started who couldn't earlier.Therefore SHGs have proved to be an effective mechanism for the financial empowerment of women. SHGs have increased their standard of living and helped them in solving the household financial problems.

The following table indicates the effect of being member of Self Help Group on the social economic development or empowerment of rural women.

Table No. 7

Effects of being Member of SHG on The Socio Economic Empowerment of Rural Women

Effects	Frequency	Percentage
Easy mobility	188	87%
Recognition by family members and community	207	96%
Increased self confidence	192	89%
Increased ability of building assets	166	77%
Improvement in communication skill	158	73%
Improvement in social relationship	162	75%

The above table shows that the socio economic effects of being a member of SHG. It is revealed that the Microfinance programs helped the destitute rural women to increase all the social economic effects positively such as easy mobility (87%) , recognition by family members and community (96%), increased self-confidence (89%), increased ability of building assets (77%), improved social relationship (75%). On the basis of collected information related to effects of Microfinance through SHG it is observed that, SHGs are proved to be an effective tool for rural woman empowerment in terms of social and economic areas. Through the Microfinance schemes or SHG, women members are getting microcredit, are able to make micro-saving, which the poor rural women unable to take up earlier.This result in income generation activities, assets building activities and improve the standard of living.

Empowerment means "becoming a powerful", by which individuals are able to improve their financial status and social status. The scheme of Microfinance or SHG is very useful for rural women, to improve their social economic conditions, increased self-confidence and get recognition by family members as well as community.

The following table shows the opinions of respondents regarding effects of Microfinance or SHG in increasing their social status.

Table No. 8

Opinion of SHG members regarding effect of Microfinance on their social status

Opinion	Frequency	Percentage
Positive effect on social status	198	92%
No effect	18	8%
Total	216	100%

From the about table it is revealed that majority of the respondents (92%) have opined that, being a member of SHG, they have improved their social status; only 8% respondents have opined no change in this regard.

VIII] Conclusion and Suggestions

Through the present study, attempt has been made to understand the role of Microfinance (through SHG) in social economic empowerment of rural women. It is concluded that, Microfinance or

SHGs have significantly contributed in enhancing the self-confidence level and assertiveness among the rural women. It is found that, there has been improvement in saving habits, acquisition of assets by the women members after participating in the SHG as compared to their earlier status. It is also concluded that there has been improvement in standard of living among the women in the study area.

Suggestions:

i) There should be training programs to all the SHG members regarding the use of finance which will lead to increase their income level.
ii) There should be an element of workshops for members to improve their confidence level and assertiveness.
iii) The banks should make provisions of more services under the Microfinance schemes as per the requirements of rural women.
iv) Rural women should be encouraged to entrepreneurial activities by giving them suitable guidance and by developing their business skills.
v) Supportive measures should be taken to ensure adequate flow of credit through Microfinance institutions and banks so that all the poor rural women will have easy access to credit.
vi) State government can set up a committee for district wise and concentrated development of Self Help Groups.

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