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EDITORIAL

Human Resource function(HR),in any organization,has to be that of a strategic or business partner,by developing the talent in the entity through job rotation, job enrichment etc. ,involving expert teams ,business leaders and line management .Such a partnership is a long-term relationship to achieve objectives common to the partners ,as also the organization's financial success .In the process, the HR employees, as partners, should perform their assigned roles ,and also support the activities of those in other functional areas .This needs a strategic plan which dovetails the HR Vision and Mission into that of the organization .

HR ,as a Strategic Partner - increases employee productivity and thus the organization's profitability ;enhances competency and talent management ;uses the technology and knowledge to formulate, implement and review strategies ;copes with the changes in the business environment arising from unforeseen business situations, and globalization ;and serves the internal and external customers well. This is done through efficient and effective delivery of human resource services. For this ,the HR needs to spend more time in the organization's planning, design and development. It must become part of the business team ,involved in planning at the highest level .HR Managers and HR professionals are strategically suited to provide the necessary leadership in change management, which is a challenging task .

The Human Resource Information System (HRIS) has to be effectively used to handle daily administrative HR tasks. Employees can make use of the self-service facility online ,to support business strategy development and implementation, which saves time and costs .There should be an HR Head who understands well the strategic partnership/relationship between organizational strategy and human resources. He should be an expert in all HR functions .Someone from within the organization can be groomed for this role.

Research has shown that the HR function will be effective in achieving the business objectives when it assumes the role of a strategic business partner. The top management should ensure this. The administrative reactive approach in people management can no longer support the organization in a competitive business environment.If the HR function is decentralized fully ,the line managers and supervisors will eventually put the blame on HR when problems arise .If this happens ,it interferes with the effective use of line managers 'and supervisors 'time in the operations of the organization on daily basis .The line managers and supervisors need to be supported to make them more proficient in managing their subordinates in the performance of daily tasks .Complete participation of HR people in strategy development and implementation promotes HR as a strategic partner. The HR Manager and HR professionals should contribute to business decisions ;develop business acumen to understand how a profitable business is run ;be customer-centric ;and learn how to link HR practices to the organizational business strategy.

The expectations from HR as Strategic Partner include: recruiting the right employees ;align corporate values to the recruitment strategy ;well-developed competencies of the workforce ,and their relevance to organizational core business; participative culture where HR initiatives fully support the overall strategic plan; discard ineffective HR practices that do not contribute to the success of your organization .HR management requires continuous improvement i.e., Kaizen to ensure and retain its relevance as strategic partner .For this ,capable and committed people are needed at every level ,supported by senior management .Change has to be managed well to avoid or minimize disruption in the organization's activities ,and for its success.

The effectiveness of the HR people as a strategic partner is also dependent upon the corporate policies and practices, structure, types of activities carried out, location, effective communication, leadership and motivating employees to keep moving in the right direction as per plan. Every aspect of HR has to be reviewed in the process of implementing the necessary changes and reorganization. Having the right is crucial to help them succeed and engage their full attention with the view to ensure HR truly becomes strategic partner .The HR Scorecard shows whether the organization is making good progress on making HR as strategic partner .The competitive advantage of the organization can be enhanced by aligning the HR strategies to the overall business plan. To ensure that HR truly becomes a strategic business partner, adequate financial backing is necessary. One needs to take measures to eliminate or minimize risks to HR, and it should be ensured that HR plays a meaningful role and not necessarily a major role, particularly during financial crises. It cannot also be a trial and error approach.

In fact, in a business landscape that is changing fast, there is an imminent need for HR to be an active strategic partner .By aligning itself with strategic plans of the business ,it needs to foster a stronger relation between the executive team and the workforce .Externally ,it can make valuable contribution to branding and the tone of communication. By leveraging customised, more personalised metrics and deep analytics, it can vastly improve organizational learning, training and improve decision-making. Consequently, the human capital program will lend more impact, thereby encouraging and enhancing collaboration between various functions across the organization. HR can no longer be just a functional arm, a distant participant, but will have to assume the role of strategic partner, integral to organizational well-being and growth.

Dr. Ch. S. Durga Prasad

A study on Marketing Strategies of Banking Services during Covid times

Dr. Sheeja R* Mrs Namitha Krishnan**

Abstract

The main intent of this paper is to assess the prevailing literature on marketing of banking services in Kerala. The Indian banking system, by custom and practise, considered deposit growth as the business objective and other parameters such as productivity, profitability, beneficiary satisfaction, etc. were considered less important. Banks today are functioning in a highly competitive and briskly changing environment. In the fluctuating economic scenario, a professional approach to business development is vital and the persistence of a banking institution depends on its capacity to take up challenges coming up in the environment. Developing business through marketing of bank's services is one of the crucial areas which need attention of the bankers to ensure profitable survival. A marketing strategy, in general, is a systematic, appropriate and feasible set of concepts and actions through which the institution strives to achieve its goal of beneficiary satisfaction and profitable survival. Strategy should be designed after taking into account the strengths and weaknesses of the organisation. The operational aspects of strategies for marketing contain actions such as development of Relationship Banking, designing of effective delivery system, ensuring beneficiary-oriented services and modifying the system into a personal selling organisation. In western banking, officials assigned the job of personally contacting the beneficiaries and offering the services at doorsteps was been able to make a significant impact on the development of business for their organisations. The importance and role of personal selling and beneficiary contacts in the marketing efforts of a banking institution stem from the success of such efforts in many banking institutions all over the world.

Keywords - Indian Banking System, Relationship Banking, Marketing Mix, Product/Service Mix, Promotion Mix, Beneficiary Satisfaction

Introduction

Banks are the most important constituents of the financial infrastructure of a country. They play a vital role in bringing about desired change in the economic development of the country. The size and composition of banking transactions mirror the economic happenings in the country. Banks provide a convenient avenue for investment of surplus funds, and to the investor a source to finance. Thus, they, as 'Repositories of People's Savings', mobilise small and scattered savings of the community and as 'Purveyors of Credit' channelize the savings so mobilised into the production of capital goods and thereby facilitate capital formation³. By providing cheap and timely credit to the best of the schemes, they help in optimum utilisation of scarce productive resources and in keeping the production cost low. Further, by providing remittance facility with their vast branch network help free flow of funds over different parts of the country wherever there is a need for it instead of allowing them to lie dormant in stagnant pools. They help in the implementation of various welfare programmes of the Government and are also of tremendous help to the Government in meeting plan objectives by directing the resources through desired channels.

Market development and Market penetration were the focus in 1970s when banks expanded their area of operation by opening more branches. Banks developed new products and services in the 1980s to cater to the various needs of increasing number of customers. With the advent of banking sector reforms in the 1990s the scenario of banking has totally changed. In order to bring efficiency, accountability and high degree of customer services, competition has been induced by granting license for banking business to new operators like private banks, regional rural banks and cooperative banks. In such a competitive environment the ability of a bank to achieve growth rate depends on how well the needs of customers are identified and effective Marketing strategies evolved. This involves developing new and improved products and services, providing better amenities and facilities, exploring new distribution channels,

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and evolving effective Marketing strategies so as to continuously meet the changing customer needs. During 1990s the financial sector and implicitly the banking sector experienced a significant growth in the developed countries.

During the 21st century, the banks act in a dynamic environment, where the Market and the other factors (components of the political, economic, social, juridical, cultural, demographical and technological environment) frequently raise problems, forcing them to additional efforts or offering them opportunities that need to be fructified as well as possible; they need to integrate their current actions to their long term objectives which were previously determined by the bank Marketing policy. Adapting the banking institutions activity to the environment requires a continuous tracking of the structural quality and quantity changes which the environments register or will register. In order to successfully achieve the purpose of the Marketing process the banks should perform analysis in order to know the bank customers to the highest possible extent, so that the offered banking products/services match their needs and the sale is ensured, systematically analyse the financial Market identifying the profitable Markets, the new agencies, intermediaries and entrepreneurs acting on these Markets and efficiently using their own resources in order to create new banking products/services and to diversify them according to the consumers' wishes and expectations. Hallowell Roger conducted a research on customer satisfaction, loyalty and profitability and found that as compared to public sector, private sector bank customer's level of satisfaction is higher.

Today banks can look back with satisfaction by having responded effectively to the challenges put before them from time to time – whether of social control or of reforms. In future, the banks will have to adjust their system of functioning, venturing into new areas, improve efficiency levels by inclusion of trained and skilled manpower and restructure their organizations. Then only they can face the challenges of the future more confidently and proactively.

Literature Review

Marketing by service industries is yet to gain momentum, especially when it comes to marketing by commercial banks. Marketing orientation of banks is imperative for survival and success. Marketing of financial services by banks is under active and extensive discussion among academicians and bank personnel survey and research have been conducted by both academic researchers and practitioners on the various aspects of services marketing in general and financial services marketing by banks in particular both in India as well as abroad.

Leorge William R and Hiran C Barksdale studied the marketing activities in the service firms and discovered that services' marketing is generally on the low ebb. Service firms tend to be less marketing oriented less likely to have marketing mix activities carried out in the marketing department; less likely to perform analysis in the area of service product more likely to undertake advertising internally rather than go to specialized advertising agencies less likely to have overall sales plan less likely to develop sales training programmes less likely to utilize the services marketing consultants and marketing research firms and less likely to spend much on marketing, as a percentage of gross sales'.

Bessom, Richard M and Donald W Jackson jr referred that 400 service and marketing firms revealed that service firms are less likely to have marketing departments, to make use of sales planning and training, and to employ marketing professionals like consultants, advertising firms and market research agencies. Today, the banking sector is changing in terms of providing the customer with what he wants, when he wants and where he wants. Thus, the element of marketing which was unheard of in earlier days of banking has assumed great significance in today's world of stiff competition. As such, no bank today can do without marketing its services.

Sarkar, Kaptan and Sagane reveal that most of the work in the area of marketing of financial services has been undertaken in countries like USA and U. K. This area of research has not received much attention of the researchers in India. A few studies which have been conducted in India reveal that no comprehensive study has been carried out to make a comparative analysis of marketing strategies of the public, private and foreign banks in India.

B. N. Bhattacharya, Koparkar, Sreedar have dealt with marketing in commercial banks. They have emphasized motivation research, marketing research and promotional aspects in marketing of services and suggested to improve the marketing strategies to cope with the changing environment. Nascenzi pointed out that though bankers use

market segmentation they were yet to identify and locate their best customers. He suggested that market segmentation must be used to define profitable target customers.

R.M. Chidambaram and K. Alamelu enunciated the measures to face the challenges in marketing of services in view of proliferation of financial services. They emphasized the need for learning about the customer and developing strategies for future. Berry, Kehoe and Lindgreen's found that most frustrating aspects of bank marketing were 1) lack of management support 2) lack of interdepartmental co-operation 3) crisis management 4) government intrusion 5) advertising and media problems.

Zeitham and Bitner identified that one of the most basic concepts in marketing is the marketing mix, defined as the elements of an organisation controls that can be used to satisfy the customers unlike marketing of products. The services also have four elements in the marketing mix, viz. product, price, place and promotion. Apart from that, there are three more elements, people, process and physical evidence, in the marketing mix for service marketing. A combination of these seven Ps makes marketing offers of the service provider. Kaptan studied marketing aims not only at delivering (selling) whatever products (schemes and services) banks have but also creating products as per customer needs.

Objectives of the Study

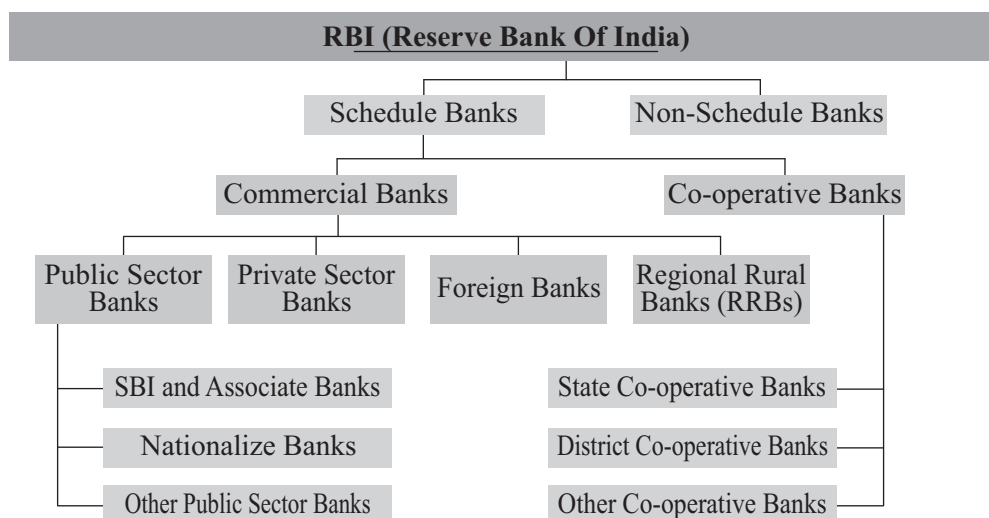
- To investigate into the marketing process
- To understand the banking behaviour
- To study the present banking scenario
- To analyze the 7p's of marketing mix

Structure of Banking Industry

The organised banking system in India can be broadly divided into three categories, viz., the central bank of the country known as the Reserve Bank of India, the Commercial banks and Cooperative banks. Another and more common classification of banks in India is between scheduled and non – scheduled banks. The Reserve Bank of India is the supreme monetary and banking authority in the country and has the responsibility to control the banking system in the country. It keeps cash reserves of all scheduled banks and hence it is known as the "Reserve Bank".

Types Of Banks In India

A. Commercial Banks: Commercial Banks in India consist of Public Sector Banks, Private sector Banks and



Foreign banks in India.

- i. **Public Sector Banks:** Public Sector Banks include State Bank of India and its associate banks called the State Bank group, 20 nationalized banks and Regional Rural Banks mainly sponsored by Public Sector Banks.
- ii. **Private Sector Banks:** Private Sector Banks includes Old generation private banks and new generation private banks in India.
- iii. **Foreign banks:** The foreign banks were referred as "Exchange banks" as their transactions primarily related to foreign exchange and foreign trade. The 'Indian Central Banking Enquiry Committee Report' (1931) pointed out that the entire foreign exchange was virtual monopoly of these banks.

B. Cooperative Banks: Cooperative Banks in India consists of State Co-operative Banks, Central Co-operative Banks, Primary Agriculture Credit Societies, Land Development Banks, Urban Co-operative Banks, Primary Agricultural Development Banks, Primary Land Development Banks and State Land Development Banks.

C. Development Banks: Development Banks in India are Industrial Finance Corporation of India (IFCI), Industrial Development Bank of India (IDBI), Industrial Credit and Investment Corporation of India (ICICI), Industrial Investment Bank of India (IIBI), Small Industries Development Bank of India (SIDBI), SCICI Ltd, National Bank for Agriculture and Rural Development (NABARD), Export Import Bank of India and National Housing Bank.

Nationalization Of Banks

Nationalization of banks began with the passing of the Reserve Bank (Transfer of Public Ownership) Act 1948, which became law on the 3rd September, 1948. It was thought desirable to nationalize the bank to ensure greater co-ordination of monetary, economic and Fiscal policies. The nationalization of the Reserve Bank was, indeed, necessary in the interests of large-scale planning upon which the Union Government had embarked. The objective of this nationalization was to enhance the ability of the banking system to meet more effectively the needs of the development of the economy and to promote the welfare of the people more adequately. The nationalized banks play a new and pioneering role in helping the public sector get on its feet. If banks do not function effectively, nationalization may promote serious dislocations and distortions in the economy, and a transfer of deposits may take place from the nationalized banks to the smaller banks which are still in the private sector.

Reasons for Nationalization

The important reasons for the nationalization of major banks in India can be enumerated as follows:

- Equitable distribution of economic power
- To provide finance to neglected sectors of agriculture, small-scale industries etc.
- Removal of malpractices
- Expansion of banking facilities

Objectives behind Nationalization of Banks

The main objectives behind the nationalization of banks are as follows:

- Social Welfare
- Controlling Private Monopolies
- Expansion of Banking
- Reducing Regional Imbalance

- Priority Sector Lending
- Developing Banking Habits

Economic Reforms of the Banking Sector

Indian banking sector has undergone major changes and reforms during economic reforms. Though it was a part of overall economic reforms, it has changed the very functioning of Indian banks. This reform has not only influenced the productivity and efficiency of many of the Indian Banks, but has left everlasting footprints on the working of the banking sector in India. Some of the important reforms in the banking sector in India are:

- Reduced Cash Reserve Ratio (CRR) and Statutory Liquidity Ratio (SLR)
- Deregulation of Interest Rate
- Fixing prudential Norms
- Introduction of Capital to Risk Weighted Asset Ratio
- Operational Autonomy
- Banking Diversification
- Emergence of New Generation Banks
- Improved Profitability and Efficiency

Challenges Faced by Indian Banking Industry

- Rural Market: Banking in India is generally fairly mature in terms of supply, product range and research even though reach in rural India, still remains a challenge for the private sector and foreign banks.
- Management of Risks: With gradual deregulation, banks are exposed to different types of risks. Banks face various market risks like Interest rate risk, Liquidity risk, Exchange risk etc.
- Growth of Banking: As the Indian banks move gradually beyond universal banking and position themselves as financial service providers, banking business is getting redefined. The structure of Indian banking system may be expected to undergo a transformation, the main drives of which will be consolidation, convergence and technology.
- Market Discipline and Transparency: Banks are expected to be more responsive and accountable to the investors.
- Human Resource Management: On account of introduction of certain advanced technology, there would also be a strong case for recruiting fresh talent with attractive pay and perquisites.
- Global Banking: It is practically and fundamentally impossible for any nation to exclude itself from world economy. Therefore, for sustainable development, one has to adopt integration process in the form of liberalization and globalization
- Financial Inclusion: Financial inclusion has become a necessity in today's business environment. Whatever is produced by business hours, that has to be under check from period with continuous net losses for over 6 years, erosion of entire net worth, adverse media publicity, consequent low morale of staff, and a throttled decision making process.
- Employee's Retention: Long time banking employees are becoming disenchanted with the industry and are often resistant to perform up to new expectations. The diminishing employee morale results in decreasing revenue.

- Environmental Concerns: The object is to assist in enhancing the public and political awareness of the actions that could have a significant impact on global emissions growth and to disseminate the message that it is time to act.
- Social and ethical aspects: There are some banks which proactively undertake the responsibility to bear the social and ethical aspects of banking.
- Customer retention: In India, currently, there are two types of customers – one who is a multichannel user and the other who still relies on a branch as the anchor channel. The primary challenge is to give consistent service to customers irrespective of the kind of the channel they choose to use.

Banking Marketing Period

It is also known as modern period. The frantic pace of branch expansion and credit disbursement during the development banking period has direct impact on the health of public sector banks. The real outcome was the proliferation of loss-making branches. The problem of communication and transport network in the countryside, rising customer dissatisfaction with banking services, and resultant apathy of bank staff towards developmental work are the basic reasons for this. The RBI urged commercial banks to take stock of the state of affairs, to consolidate their gains and go slow on branch expansion, thus ushering in the period of consolidation. The bank visualises the risk inherent in continuing to do business as before. So there is a growing awareness that marketing was an essential tool in the hands of the banker, an inescapable necessity without which perhaps survival itself might become difficult in future.

Bank Marketing is defined as "identifying the most profitable markets now and in future, assessing the present and future needs of customers, setting business development goals and making plans to meet them, managing the various services and promoting them to achieve the plans – all in the context of a changing environment in the market". Marketing thus aims not only at delivering whatever products banks have but also creating new products as per customer needs. As far as India is concerned, the position of marketing in the banking industry has been quite dismal.

Banks essentially deal in services and not products. "Financial service is any act or performance that one party can offer to another; it is essentially intangible and does not result in ownership of anything. It broadly includes investment activities in terms of investment management, investment advice and investment arrangement. Berry has contrasted services from goods by defining "a good as an object, a device or a thing. A service is a deed, a performance and an effort. When goods are purchased, something tangible is acquired. When a service is purchased, there is generally nothing tangible to show for it. Services are consumed but not possessed.

According to Federal Express, the giant express delivery organization, services have been redefined as all actions and reactions which customers perceive they have purchased. The above definitions clearly show that services do have certain specific characteristics which make them different from goods. These are broadly defined as intangibility, perishability, heterogeneity and inseparability of production and consumption.

Marketing Mix for Banking Services

The formulation of marketing mix for the banking services is the prime responsibility of the bank professional who based on their expertise and excellence attempt to market the services and schemes profitably.

The bank professionals having world class excellence make possible frequency in the innovation process which simplifies their task of selling more but spending less. The four sub mixes of the marketing mix, such as the product mix, the promotion mix, the price mix and the place mix, no doubt, are found significant even to the banking organizations but in addition to the traditional combination of receipts, the marketing experts have also been talking about some more mixes for getting the best result. The "People" as a sub mix is now found getting a new place in the management of marketing mix. It is right to mention that the quality of people/employees serving an organization assumes a place of outstanding significance. This requires a strong emphasis on the development of personally-committed, value-based, efficient employees who contribute substantially to the process of making the efforts cost

effective. In addition, we also find some of the marketing experts talking about a new mix, i.e. physical appearance. In the corporate world, the personal care dimension thus becomes important. The employees are supposed to be well dressed, smart and active. Besides, we also find emphasis on "Process" which gravitates our attention on the way of offering the services. It is not only sufficient that you promise quality services. It is much more impact generating that your promises reach to the ultimate users without any distortion. The banking organizations, of late, face a number of challenges and the organizations assigning an overriding priority to the formulation processes get a success. The formulation of marketing mix is just like the combination of ingredients, spices in the cooking process.

The 7 P's of Marketing Mix

The marketing mix is a key foundation on which most modern marketing strategies and business activities are based. The concept of the 'Marketing Mix' came about in the 1960s when Neil H. Borden, professor and academic, elaborated on James Culliton's concept of the marketing mix. Culliton described business executives as 'mixers of ingredients': the ingredients being different marketing concepts, aspects, and procedures. However, it's now widely accepted that Jerome McCarthy founded the concept. After all, it was McCarthy who offered the marketing mix as we know it today; in the form of 'The 4Ps of Marketing': Product, Place, Price, & Promotion. The 4Ps then paved the way for two modern academics, Booms and Bitner, who, in 1981, brought us the extended version of the marketing mix: the '7Ps'. The 7Ps comprise McCarthy's 4 original elements, and extend to include a further 3 factors: Physical Evidence, People, & Processes.

Product / Service

Product/service define the core offering of a business. In banking industry, managers must strive to satisfy customers as customers are after value and benefits. Kotler and Armstrong (2013) define product as anything tangible or intangible offered to a market for attention, use and consumption with aim of satisfying needs and wants of customers. In this definition, they consider product to include services. Products in banks includes different accounts for customers to use for example current accounts, savings accounts, save for children, other products are investment advice, loans and agencies. Researches have established relation between product and customer satisfaction. Banks must encourage customers to open account and increase the service quality with different product innovation in order to achieve competitive advantage. Therefore, the relationship between service and customer satisfaction has been established.

The main products of Banks are Saving Account, Current Account, Forex Department, Salary Accounts and Demat Account. The other products are Home loan, personal loan, Insurance, Credit cards, etc.

Price

Bank offers an assortment of financial services to its esteemed customers. It has a very clear-cut pricing policy. It deals in a competitive market and so it has a policy that involves improvisation at each level. The bank's value added strategies are made keeping in mind and analysing the customer's mind set and economic changes happening in the market. It has also started an aggressive pricing policy that involves acquisition through low-cost funds. The bank's main aim is to eliminate competition in the banking field. The bank offers loans and schemes to attract its customer. The rates are evaluated at regular periods and changed to suit the needs and demands of both the bank and the customer. The price of the product depends upon the services provided by the Bank on the respective product to the customers.

Place

Place plays an important role in tangibilizing service offerings. Quality of service is perceived by many customers in the form of place of delivery - locational appeal, interiors, ambience, etc. If a bank is located in a crowded market the place or location will be a negative tangibilizes. Providing excellent tangibles in the form of place or location and interiors is particularly important for appealing to the customers segment. More recently, some of the private banks in India are providing very attractive tangibles in the form of their locations, exteriors and interiors.

The places acts as a distribution channel for the banking facilities where services are provided anytime 24*7. The concept of Internet banking and using of technology for any kind of services is encouraged. All its branches are equipped with modern facilities. The bank has opened various information centres where all the related queries can be answered.

Promotion

The promotion strategy of Banks comprises of direct and indirect communication to the customers. Besides emphasizing on the modernization of its banking facilities stress is also laid on the benefits one gets on using the banks services. The benefit of each product is highlighted so that the clients become impressed and they are forced to grasp the services of this bank. Promotion can tangibilize services in different forms:

- Visualization
- Association
- Physical representation
- Documentation.

Visualization tangibilizes services through hoardings, TV and print campaigns or advertisements. Physical representation in services has a good promotional appeal to customers like use of colours to symbolize wealth and status. Service providers use documentation in their promotions in support of their claims for dependability, popularity and responsiveness

People

People, refers to those involved in service delivery. Their level of training, interpersonal behaviour, discretion in rendering the service and appearance matters a lot in customer satisfaction in banking industry. Thorsten (2004) opines that customer orientation of service employees is a key driver of customer satisfaction. The interaction of employees and customers create good customer satisfaction. Customers rely on bank employees for advice, complaint and direction towards some of the banks' products and channel of distribution. Interaction quality is an important factor when customers evaluate service quality.

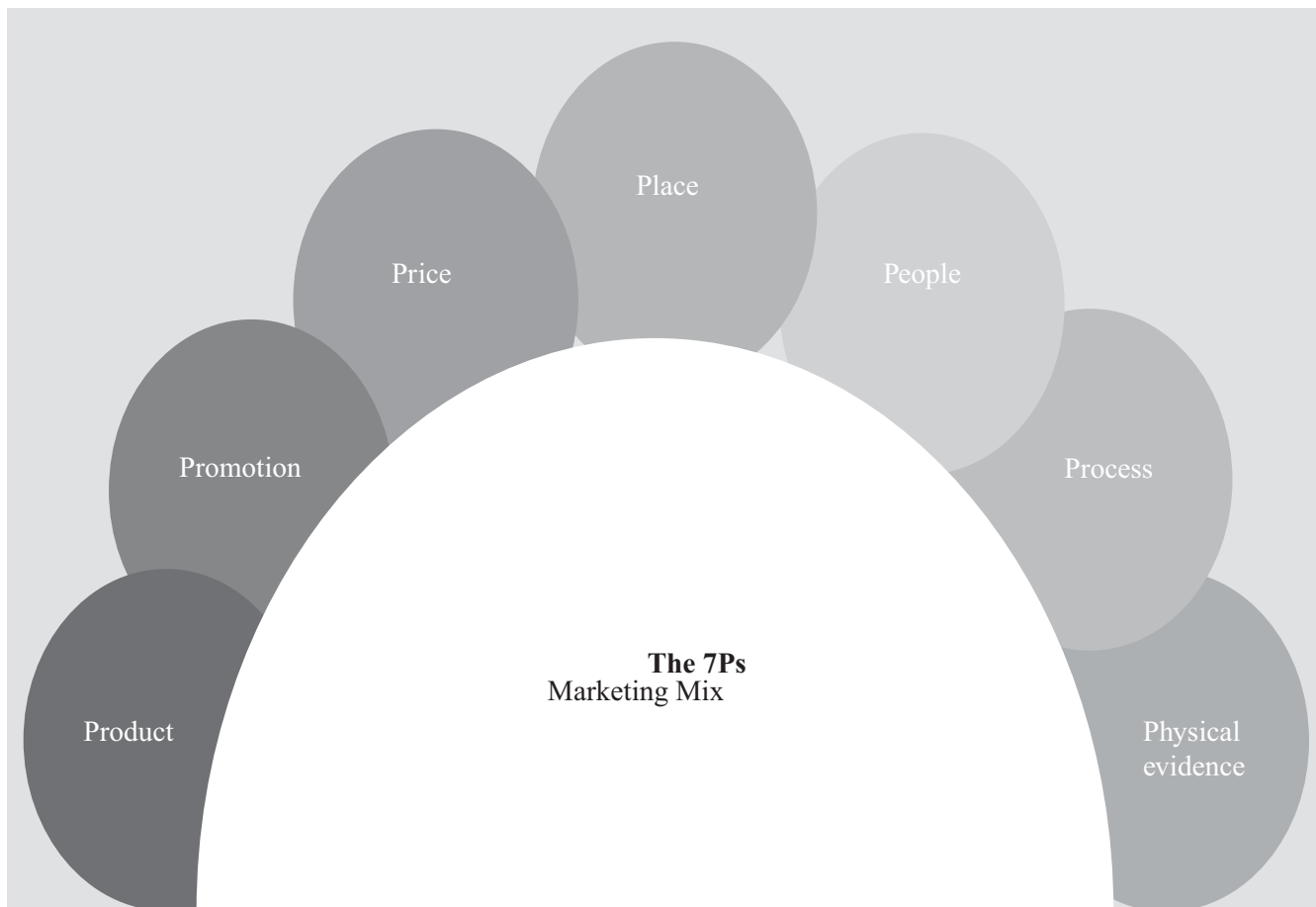
People are a common factor in every service. And people tangibilize services. Good people (means good performance) make good or successful services. Bad performers deliver bad services.

Process

Process shows procedure of rendering services. Banks should create a good service process to maintain satisfied customers and attract potential customers. Banks are constantly taking initiatives to offer the best in class service that seek to enhance customer experience.

Physical Evidence

This deals with environment where business operates. It includes reducing of paper usage, gives higher standard of services through product innovation, Satisfies the diverse need of individual and corporate clients, customer centric, and service oriented.



Perceptions of Beneficiaries

With the current change in the functional orientation of banks, the purpose of banking is being redefined. The main driver of this change is changing beneficiary needs and expectations. Beneficiaries in urban India no longer want to wait in long queues and spend hours in banking transactions. This change in beneficiary attitude has gone hand in hand with the development of ATMs, phone and net banking along with availability of service right at the beneficiaries door step. Further, the world class banking experience provided by private and multinational banks with their ever evolving products and services has raised the bar of beneficiary expectations.

With the emergence of universal banking, banks aim to provide all banking product and service offerings under one roof and their Endeavour is to be beneficiary centric. The Indian banking industry is also embracing technology rapidly. Big players among the private and public sector banks are reengineering and automating their core banking processes.

Beneficiary Satisfaction is a key indicator of the operational and financial performance of a bank. Due to an increase in the number of beneficiaries, traditional one-to-one beneficiary interaction has become unsustainable. This sets the goal for the financial services sector to use sector insights to understand how to create an effective multi-channel beneficiary experience that is personalized and relevant, differentiated by value and respectful of privacy concerns. As global competition increases and products become harder to differentiate, banks have begun moving from their product centric attitude to beneficiary-centric one.

Discussions

Findings

From the inception of civilization the banking sector has dominated the economic development of a country by mobilizing the savings from the general people and channelling those savings for investment and for economic development and growth of the country. The issues of marketing and promotion in the banking sector are becoming more and more important and complicated as internationalization of financial services continues to increase. In recent years, India has emerged as an attractive market for many western countries and several banks have started their operation here. So, the industry has become competitive and the banks essentially need to look for unique and competitive promotional activities in order to stay in competition and to retain prospective beneficiaries. To keep itself up-to-date banking industry is adopting these new services in their portfolio. For success it is important to make the beneficiaries aware of the new products. So it becomes the duty of the commercial banks to provide more information to their target beneficiaries about themselves & their products. Here comes the need for introducing marketing strategy in banking industry. For this aspect banks are now adopting different promotion activities to make their products acceptable and familiar in the market.

The present study falls under the area of marketing. The theme in broad is to analyse the marketing mix and how far this tool useful in the present situation. The objective for which this research has been undertaken is to investigate into the marketing process. i.e. 7P's of services marketing. In present day context banking industry is mainly focusing on marketing practices to attract the beneficiaries.

The scope of the present study extends to the attitude and perceptions of bankers and beneficiaries towards bank marketing and is confined to the bankers and beneficiaries of commercial banks operating in Thrissur District, Kerala. For this purpose it is proposed to elicit the perceptions from managerial and non-managerial staff of the banks. An attempt has been made to elicit the opinions from beneficiaries, because they are having their own banking behaviour.

The preliminary limitation of this study relates to the behavioural sciences. The basic limitation of behavioural sciences is that they would deal with attitudes. These attitudes differ from individual to individual. The preliminary limitation of this study relates to the behavioural sciences. The basic limitation of behavioural sciences is that they would deal with attitudes. These attitudes differ from individual to individual.

Today, the banking sector in India is fairly mature in terms of supply, product range and reach. As far as private sector and foreign banks are concerned, the reach in rural India still remains a challenge. In terms of quality of assets and capital adequacy, Indian banks are considered to have clean, strong and transparent balance sheets relative to other banks in comparable economies in its region. The Reserve Bank of India is an autonomous body, with minimal pressure from the government. The stated policy of the Bank on the Indian Rupee is to manage volatility but without any fixed exchange rate. Till now, there is hardly any deviation seen from this stated goal which is again very encouraging. With passing time, Indian economy is further expected to grow and be strong for quite some time- especially in its services sector. The demand for banking services, especially retail banking, mortgages and investment services are expected to grow stronger.

Suggestions

The following are some of the suggestions made to the branch managers and employees of the banks.

Technology: Banks need to continue their focus on the innovation required to compete and grow while coping with the instability engendered by reform. Banks will need to rethink their strategies as they respond to the sweeping changes in their markets and the regulatory environment.

Knowledge Management: The value of the knowledge must be recognized in order to successfully implement knowledge management measures in the banks. Banks have to emphasize on information technology and the dissemination of information. Banking industry must strengthen their research and development work encourage flow of ideas, develop new non-conventional strategies, introduce more professional human resources management policies which can address all the issues.

Expansion & Diversification: Expansion and diversification by a bank leads to increase in operational risk. However, higher risk leads to higher returns so long as the bank has adequate systems in place to handle such risks.

Marketing Strategy: Banks have to market their products and services by giving the proper knowledge about the product to beneficiary or by awarding the beneficiary about the products. Bank should literate the beneficiaries. In the wake of the changing dynamics in the financial services sector, banks in the region have the uphill task of retaining their existing beneficiaries, acquiring new beneficiaries, building beneficiary confidence and maintaining a robust financial performance. For these challenges, the Indian banks need to adopt and implement innovative relationship marketing strategies to maintain the competitive edge in the market place.

Increased competition: The liberalised policies of RBI and Govt. of India relating to Indian Banking have set the stage for a competitive banking. The banks should add intense competition; all the banks are increasingly subjected to severe regulatory and prudential measures that are intended to ensure the viability and substance of the business as well as the safety of its stakeholders.

Banking Ethics: The performance of Indian banks has to be judged on the basis of growth, credit quality, strength, soundness, efficiency and profitability. The ethics of banking is based on the trust of the depositors and the borrowers. The measure of this trust is the strength and soundness of a bank.

Human Resources: HR plays a pivotal role at the Bank, by implementing the strategy for recruiting, developing and retaining the talented people needed to deliver against its objectives. Human Resource Management is important for banks because banking is a service industry.

Customer Relationship Management: The marketing strategy consists of a very clear definition of prospective beneficiaries and their needs and the creation of marketing mix to satisfy them. A recent development in this regard in banks is Customer Relationship Management (CRM). It is a business strategy to learn more and more about customer behavior in order to create long term and sustainable relationship with them. It is a comprehensive process of acquiring and retaining selective beneficiaries to generate value for the bank and its beneficiaries.

Build Customer Trust: Provide beneficiaries with required information for making financial decisions. Build loyalty through superior banking service and consistent messaging. Expend bank's share of wallet by providing innovative financial products, value pricing and having a clear understanding of individual financial goals.

Conclusion

This project is all about identifying the Role of marketing in banking industry. Use of marketing mix in banking sector is increasing day by day with 7'Ps. Thus, marketing concept is very important for every bank. The main purpose of this study is to get an overview of bank marketing and to find out the role of marketing in the banking industry and see how marketing mix (product, price, place, & promotion) is most important for a bank. Use of 4 p's for banks and implementation of that in bank's marketing concept and finding out why marketing is important for a bank. And combination of extra 3'Ps (people, process, Physical evidence) are also very important for a bank in the present scenario. To summarize all these, the project comprises detailed study of the role of marketing in banking sector. Bank Marketing has become a necessary survival weapon and is fundamentally changing the banking industry worldwide. The rise of Bank Marketing is redefining business, relationships and the most successful banks will be those that can truly strengthen their relationship with their beneficiaries. Technology innovation and fierce competition among existing banks have enabled a wide array of banking products and services, being made available to retail and wholesale customer through an electronic distribution channel, collectively referred to as e-banking. Technology is altering the relationships between banks and its internal and external beneficiaries.

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An Understanding of the Emerging Dynamics in the Luxury Ecosystem

Raghupriya. A* Dr. Thiruchelvi. A**

Abstract

The year 2020 is the most challenging period in the history marked with the intense humanitarian crisis topped with the deepening economic crisis. COVID19 pandemic has affected the consumers' everyday aspects of life. Like many sectors, the luxury fashion sector is also facing unprecedented shift in their ecosystem. According to McKinsey GFI analysis (2021), the fashion companies will post a 90% decline in economic profit in 2020 after a rise of 9% in 2019. For the luxury industry the pandemic will accelerate the revamping trends that were in action prior to the crisis such as more digitization, customer empowerment and social responsibilities.

Currently a lot of research related to the luxury fashion industry is available, but through this study we aim to collate our understanding of the emerging dynamics in the luxury fashion industry and provide an outline of the revamped luxury ecosystem and recommend business strategies with focus on agile, flexible, ethical, culture-sensitive, omni-channel presence and enhanced use of data and analytics and customer-centric. Though there is no one strategy that fits for the whole sector, the business should tailor their strategies based on their operational resilience and capabilities for being relevant and to emerge from this unexpected crisis.

Keywords - Luxury industry, COVID19, Consumption trends, Digitization, Data analytic, Agile SCM

Introduction

The concept of luxury has been continuously evolving. "What one generation sees as a luxury, the next sees as a necessity." (Anthony Crosland). The global personal luxury industry has seen a steady trajectory at a pace of 6% CAGR since 1990's and was worth over \$308 billion as of 2019 with China accounting for 90% of the market's growth in 2019 (Bain & Co., 2020). The Covid-19 pandemic has hit all the industries and luxury is no exception. With social distancing, rise in unemployment and consumers becoming more conscious than conspicuous, the personal luxury market witnessed a decline of 23% in 2020, the largest since recorded (Bain & Co., 2020), with some iconic luxury retailers becoming bankrupt. The companies that have already experiencing distress have had a harder impact because of the pandemic. The survey of GLEN members by the Luxury Institute highlights the current luxury environment and predicts varying degrees of projections for 2021 across the categories with rise in sectors such as consumer wellness and technology, home appliances; fall for retail and flat level for travel and hospitality, automotive and fashion apparels and accessories. Relevance being the new legacy, the future fashion industry should focus on digitization and sustainability (McKinsey & Co., 2020). The luxury retailers must be ready to embrace the disruptive technologies, adapt the omni-channel strategy, understand the changing roles of consumers and align their business models and value proposition according to the changing ecosystem.

Currently a lot of researches are available for both the impact of pandemic across various fields and also the trends in luxury industry. In this conceptual paper, we present our understanding of the luxury market scenario by collating secondary qualitative data obtained from the relevant journals and reports from global consulting firms. The aim of this article is to present the new age luxury ecosystem and propose the need for business to strategize on the relevant trends which serve as silver linings to gain brand momentum to revamp from the pandemic impact.

Theoretical Foundation

In Emergency Committee meeting, the Director-General, WHO stated that "The COVID pandemic is an unanticipated rare health crisis, the effects of which will be felt for decades to come." This immense and prolonged epidemic led to unexpected and unprepared economic shock with different industries affected in varying degrees in three major areas: financial, supply value chain, consumer market, each of which is inter-linked.

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The impact of pandemic on the consumer behaviour

The Covid-19 has led to a perceived anxiety related to health and income patterns which has led to a decrease in the quality of life and emotional state of the consumers (Lai, 2020). This resulted to broader repercussions of fear and this is reflected in their uncertainty in spending decisions (Loxton, M et al., 2020). There is a shift in buying behaviour with more focus on essential and safety items than on emotional and hedonistic goods as anticipated by the Maslow's Hierarchy of needs. These behaviours were exhibited even during the past crisis and was reflected in the form of panic buying, herd mentality and discretionary spending (Loxton, M et al., 2020). In the time of crisis, customers tend to closely watch how companies cope throughout in terms of employees and social responsibility (Buheji & Ahmed, 2020). The 2020 Edelman Trust Barometer signifies the fact that during the crisis brands can either build a new level of connection with customers or lose the relationship forever. There has been a slow transformation by the sector but a growing demand for digital presence by the luxury consumers even before the crisis (Kim & Ko, 2012). This crisis will only increase the customers' expectations as they are more addicted to convenience and omni-channel experience (Klaus & Zaichkowsky, 2020) which has led to certain industries adapting the disruptive innovative technology to enhance the customer experience (Klaus, 2020a). Though the pandemic has affected the luxury sector economically, it provides an unique opportunity to the industry if they focus on employment, emotions and expectations of the consumers (Klaus et al., 2020)

The luxury industry

The notion of luxury has been evolving over a longer term on the basics of several value terms related to the consumers' perspectives (Cabigiosu, 2020). Traditionally, luxury was defined with elegant shops and luxurious aesthetics with digitization and customization never a part of brand strategy. Some of the players in this sector were hesitant about introducing customization owing to the fear of brand dilution; it is the consumers who prefer to experience engagement, entertainment and interactive shopping though online. The study by Yoo, J and Park, M (2016) adopted the "Consumer-Perceived Value Tool" (CPVT) identified that through mass customization the luxury brands could build a better customer relationships by providing hedonistic, utilitarian, uniqueness, self-expressive, and creative achievement value with no negative impacts on their brand image. Also the branding literature states that though there have been clear distinction between luxury and mass products in the past, the boundaries are getting blurred since the recent past and every product has a piece of luxury in it. The decrease in household size, increased income and change in lifestyle influenced by education, technology and travel has resulted in consumers 'trading up' and the brands 'trading down' to welcome and retain the new affordable consumers. Even before the crisis the luxury sector was going through the changes but was slow and not able to fulfil customers' desire to buy luxury products and services online. Even though, McKinsey report (2018) states that by 2025, luxury good purchase online will be 20% and influence by online channels on all the purchases will be 80%, it has been identified that the online channels of some luxury brands do not deliver the experiences that the customers desire. The epidemic has now defined digitization as the strategy for the future and luxury brands should embrace and enhance their digital presence and shopping facilities for customers (Bain & Co., 2020). The retailers need to adapt the online technology to enhance their supply chains and can use the communication platform to show how the brands act and care for the society, this would lead to an increased brand loyalty (Sender, T, 2020). In an attempt to handle the crisis and to recover from heavy losses, the brands are developing strategies to emotionally connect with their customers (Siddiqui, B. & Ganjoo, M. 2020) and communicating the responsible actions, product innovations and the price adjustments to gain the brand trustworthiness and loyalty (Xie, J. & Youn, C., 2020). The performance analysis in the second quarter of 2020 signifies that the luxury brands are open to more digital marketing and the level of online sales will rise in the future (Peiyu, W., 2020).

The luxury industry had witnessed some economic downturns in the past starting from the recession due to World War II, 1990s Gulf oil crisis, the dot.com, 9/11 and the 2008 recession. Despite the fact that there was a decline in the luxury spending during crisis, the trajectory is not linear or uniform and each of these times, the industry has not only emerged but strengthened by re-aligning and re-focusing on the outstanding quality, fostering customer experience, improving marketing channels, product innovation and capital investment (Reyneke, M. et al, 2020).

Recently the luxury market is gaining more attention among the scholars and lots of articles related to various evolving concepts are available. Even as we present this study we expect some evolution in the industry. Based on

the existing literature, we have attempted to represent a model of the new luxury ecosystem of the millennial marked by more empowered and engaged consumers who prefer casual than glam, online than offline, product value than price, sustainability and responsibility, local culture and heritage. We recommend the significance of digitization, co-creation and sustainability, measurement of brand value equity considering the whole omni-channel as part of business strategy to sustain in an era of "Luxury 4.0" term from "The Age of Digital Darwinism" (McKinsey, 2020)

The New Luxury Ecosystem

In this study, we have presented a framework for the new luxury ecosystem and will discuss each arena in detail in the following sections.

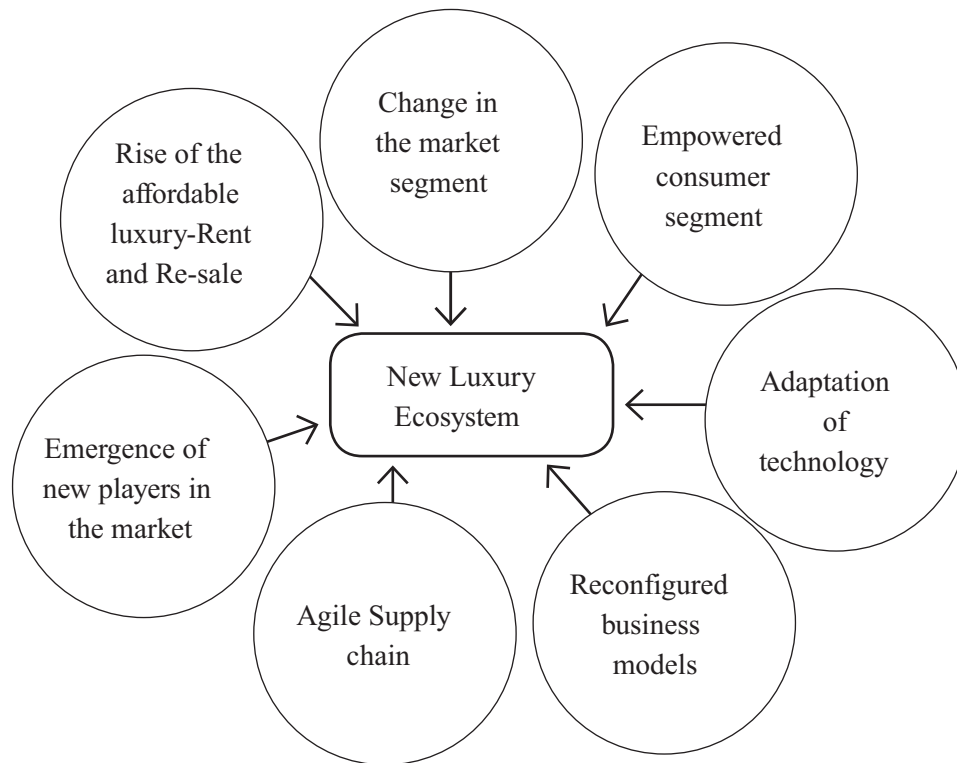


Figure 1. The New Luxury Ecosystem

Change in the market segment

The UN's COVID-19 Immediate Socio-Economic Response framework warns that "Even though the global health is mainly affected, the core society and economy are also affected." The impact varies from developed to developing countries. There is a pressing need to focus on the social consequences related to job losses, depression, stress, domestic violence and so forth (Aneja, R. & Ahuja, V., 2020). This results in immediate focus on SDGs by the governments and UN, as the development trajectories mainly depends on the countries' measures. The UN has extended its full capacity to its 131 countries and supporting 162 territories in developing mitigation plans.

In the economy sector the effect on migrants, job losses and poverty varies disproportionately globally. Like many sectors, the luxury is also facing unexpected economic crisis. In the BoF and McKinsey, 'State of Fashion survey 2021', the business executives had a divided outlook on the pandemic recovery across the sector and geography with 45% of the respondents stating that COVID19 and the economic crisis being the biggest challenge in 2021. Increased unemployment, inequality, lockdown and travel restrictions has heavily influenced consumers psychologically resulting in reduced buying behaviour and constrained spending power leading to diminished demand. Owing to which the global sales is expected to go below 2019 level by as much as 15%. The recovery timeline is expected to vary between third-quarter of 2022 to third-quarter of 2023 based on government trade and travel regulations, improvement in the geographical markets led by China followed by Europe and USA.

Adaptation of technology

According to 'The Age of Digital Darwinism', the digital trajectory leads to an emergence of Luxury 4.0. The pandemic has led the lackadaisical move towards online innovation to a sprint as brands started focusing on their only source of revenue: e-commerce. The global fashion e-commerce market is expected to grow from \$549.55 bn in 2020 to \$668.1 bn in 2021 at a CAGR of 21.6% mainly because the sector has adapted the new normal in their operations and resuming from the pandemic impact. This growth is also attributed to the rise in use of internet and smartphones (Digital 2019 Global Overview Report). Digital is seen by a third of executives as a silver lining that presents the biggest opportunity in 202 (McKinsey & Co., 2020)

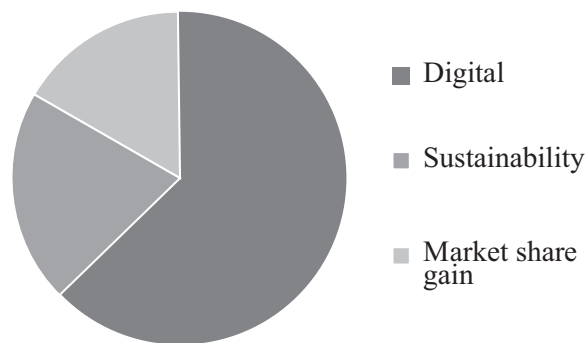


Figure 2. Top Three Answers of the Fashion Executives

Note: Adapted from BoF-McKinsey State of Fashion 2021 Survey

It is expected that by 2025, one-fifth of the personal luxury sector will happen online with variations in purchase across products. Luxury shoppers of all age groups are embracing digital as a consumption channel moving from laptop to smart phones. The main challenge lies in how the marketers could translate the art of story-telling through a smart device. The acceptance of digital reality is happening in the luxury sector which is seen through the change in brands promotion investments and adopting of new technologies such as AI, scanners, VR outfits and automation tools which provides highly relevant and personal consumer experience (Fashion E-commerce Global Market Report 2021, Business Research Company) Fashion shows, 3D virtual exhibitions and interactions, conversational bots serve as a powerful tool for digital communication. The e-luxury business models are evolving with e-retailers (Matches Fashion), marketplaces (Farfetch) and tech companies (Stitch Fix) (McKinsey, 2020). The most forward looking brands use consumer data and adapt AI in enhancing the front and back-end operations. According to CEO, CFDA; this pandemic has also introduced Phygital as the future of fashion weeks which is evident from the virtual fashion shows organized in the main fashion cities with live audiences owing to the travel ban of luxury tourists. Though these virtual fashion weeks worked for lot of brands, some still need a physical presence.

Apart from creativity, digital storytelling and omni-channel, there is a rise in the use of influencer marketing which has proved itself more important than ever in this year. Still, measuring the value of brand visibility across social media is a primary challenge for brands to estimate ROI. The Media Impact Value is a key global strategy to determine brand's ROI and rank among competitors. According to Launchmetrics, brands make hefty investments in the following channels: Influencers, Celebrities, Partners and Media (Paid, Earned and Own). As online penetration accelerates and shoppers demand ever-more sophisticated digital interactions, fashion players must optimize the online experience and channel mix while finding persuasive ways to integrate the human touch.

Empowered consumer segment

The luxury industry is witnessing a trend in their consumer segment: demographically (millenials, GenZ, HENRYs), geographically (rise in the Asian market), psychologically (social media influencers, KOLs) and behaviourally (focus on brand value, sustainability, social ethics, purchase behaviour). For the marketers, this pandemic has amplified the need to focus and capitalize on the segment patterns. In the global battle with pandemic, the everyday aspects of the consumers have changed drastically making them a conscious spender than a conspicuous consumer. There was a slow shift towards digital shopping which has increased to 60% or more during

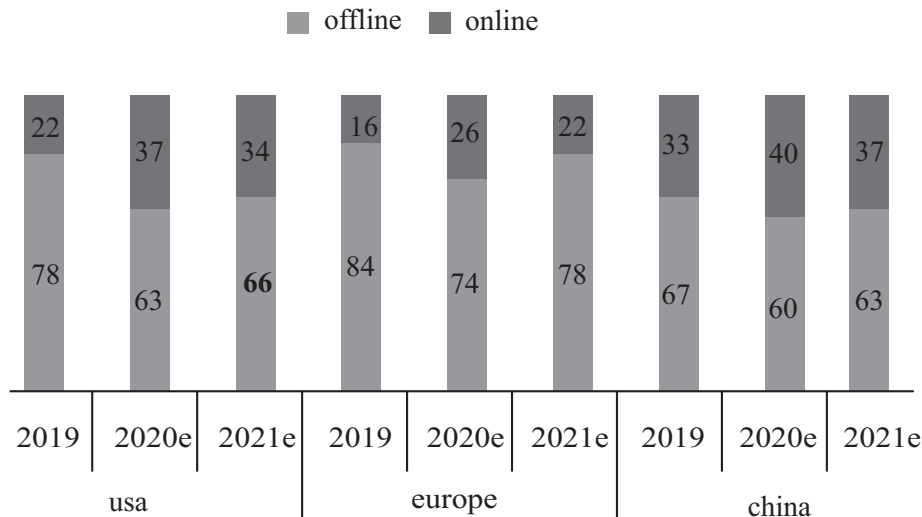


Figure 3. Expected Share of Online Sales

Note: Adapted from BoF-McKinsey State of Fashion 2021 Survey

the quarantine. Even in a typical brick and mortar market like Hong Kong, the consumers quickly moved to e-commerce apps. In the Asian region, social media also served as a platform for COVID19 updates.

During the crisis, there is an increase in demand for social responsibility and sustainability from the luxury brands and their involvement are being carefully assessed. The top luxury brands are also contributing to the fight against COVID through product or monetary donations. These socially responsible measures by the brands will increase the consumers brand trust, loyalty and emotional bond for a longer time post the turmoil (Bain, 2020) and these are communicated via digital channels (paid, earned and owned). Nearly two-thirds of the consumers expect their brands to be responsible towards their employees during this crisis and state that they would either stop or significantly reduce their purchase with brands mistreating the employees (McKinsey & Co., 2020).

The new age luxury market is dominated by the millennial and Gen Z who will make up for a 40% market share by 2025. There is also a rise in the medium and medium-higher groups (HENRYs-High Earners Not Rich Yet) who are affordable and aspirational and view luxury as an investment. The luxury brands try to attract and retain them through the premium entry products (McKinsey & Co., 2020). The millennial HENRYs especially, are tech-savvy, with better purchasing power and use social media for buying decisions. The BCG study stated, this new segment appreciate collaboration of KOLs and brands, consider re-sale value, focus on 'silent luxury' (craft and heritage rather than glam) and prioritize sustainability (McKinsey & Co., 2020). A study from Nielsen states that nearly three-quarters of the millennial are willing to spend more for products that comes from a sustainable and social responsible brands. With digital presence, sustainability along with process transparency will gain brand trust from consumers. Brands are competing for this new age mindshare and focussing on engaging with influencers who are in line with their brand values. The spike in TikTok popularity during lockdown, has spurred a new thought for luxury to engage with this audience via this channel.

All luxury consumers are going digital; this trend is not just linked with millennial. Baby boomers spend 16.4 hours in the Internet and 75% of them use social media as compared to 17.5 hours and 98% use by the millennial (McKinsey & Co., 2020). With increased online purchase the customer wants to engage via multiple digital points and experience the product customization (De Keyser et al, 2020). In the past 5 years, the number of touch-points influencing consumers purchase journey have become thrice. In case of Chinese luxury consumers the points are estimated to be around 15. The customer also expects this continuous and coherent brand relationship via these digital points, even as they travel from one geography to the other. This is still a challenge for brands who are organized around channels and geographies. Daigou, the act of shoppers outside China market buying luxury goods for consumers back home, is an indication of the consumers' willingness towards digital touch points across boundaries. The use of WeChat by Chinese consumers for the entire purchase journey is another example of the rise in digital luxury shopping.

The luxury brands should be willing to accept the concept of co-creation not only in production development but also in brand content generation without affecting the core brand identity. The brands have to develop strategies to make the consumers the brand ambassadors. The digital luxury is turning into a C2C economy with the greater engagement and empowerment of consumers who are not just a purchaser but a creator, meta-voice and a propagator (Liu-Thompkins et al, 2020).

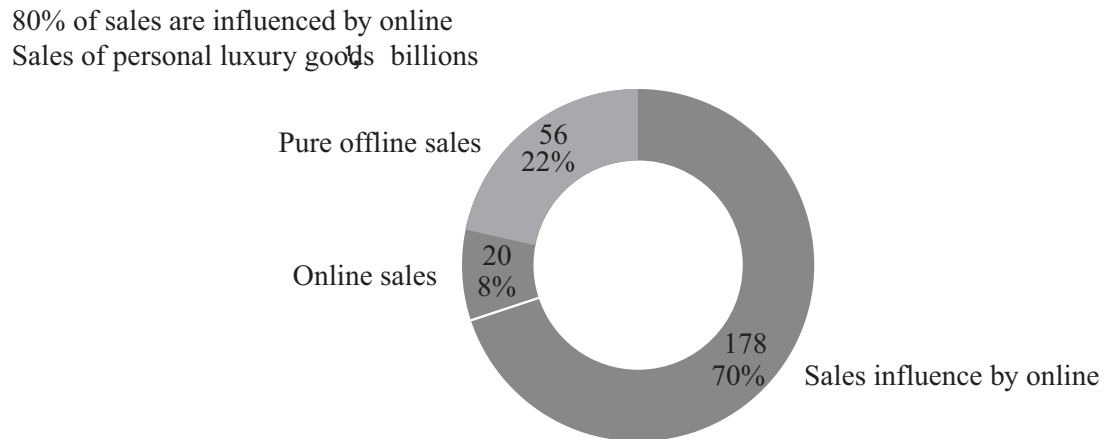


Figure 4. Sales Influenced by Online

Note: Retrieved from Euro-monitor, Forrester, McKinsey Annual Reports

The impact of digital experience makes consumer set expectations on online shopping and also the same in the physical store. It is time for reverse omni-channel where stores are expected to match the level of online experience. Digital is no longer a medium of mere sales or communication but a source of inspiration to re-design the store and re-focus on the customer experience.

Another dynamically and fast-growing trend in luxury sector is the "Experiential luxury" which along with social media influencers are gaining momentum. Social distancing and lockdown had made popular brands like Louis Vitton, Saint Laurent, Versace and Burberry to name a few use nostalgic marketing campaigns via social media channels (instagrammable moments) and develop product designs based on nostalgic theme to attract the boomers and the millennial equally.

The lockdown has resulted in revenge spending which is observed in the China market as the situations are settling down. The consumers have started to resume their shopping behaviours with the alleviation of the situation and we foresee a higher spending than before from China, given the fact that travelling is still restricted. With big data and machine learning, the luxury brands can improve the authenticity and customer relationship. In early days, Louis Vitton used to send personalized product suggestions to their customers, the same unique personalized recommendation can now be achieved using Big Data analytic and this marks the era of contextual marketing where each customer is unique in each situation.

From Omnichannel to reverse-omnichannel Online sales, percent

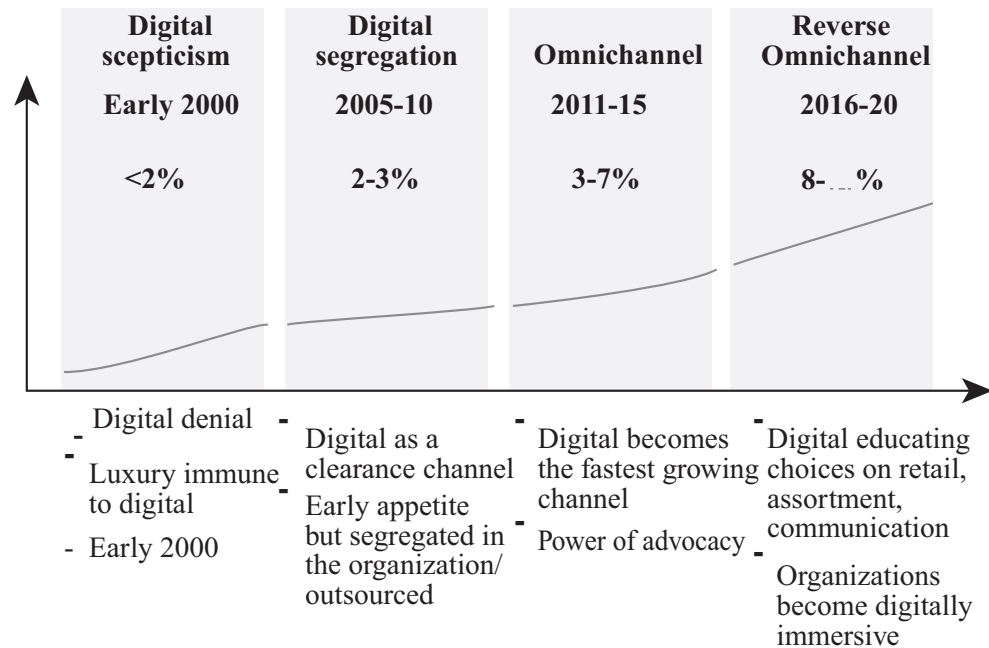


Figure 5. Reverse Omni-channel

Note: Retrieved from Euro-monitor, Forrester, McKinsey Annual Reports

The new age luxury consumers embrace ethics, crafts, heritage, technology and prefer casual over glam. This pandemic has created an opportunity for the industry to reconsider 'rest of the world' strategy to focus on other emerging markets than China and focus on engaging and empowering consumers.

Rise of the affordable luxury-Rent and Re-sale

The re-sale or re-commerce market for the fashion goods were booming even before the pandemic. Consumers started valuing their once purchased luxury items as not only a style factor but a trade-able asset. The online retail site such as The RealReal, Poshmark, Depop and ThredUp are boosting of a growing amount of consumers in this sector which serves as a means of financial security especially during the time of this epidemic. The luxury apparel and accessories market reached \$24 billion in 2019 and is expected to reach \$53 billion by 2023. Even though the millennials and GenZ dominate this sector; Boomers and GenX are also embracing this market as a means to clear-up their closets. The RealReal holds the authenticated designer brands such as Chanel, LV and Valentino. While the ThredUp holds the consignment of around 45,000 brands from Gap to Gucci, the sites like Poshmark and Depop provide a C2C transaction platform. According to ThredUp report 2020, over the three years the resale business grew at a speed of 21 times as that of new apparels business with millennials and Gen Z holding a market size which is 2.5 times that of the boomers and GenX. This pandemic has led to a 50% increase in the business size. Also, the legacy retail players have tapped into the resale market to attract the young consumers which is witnessed by the tie-up of retailer Macy with ThredUp.

The re-sale market has also been hit by the pandemic. According to Founder of Luxury Institute, the supply of the consignment has been increasing with consumers ready to sell their used fashion goods but the demand is far less leading to difficulties in inventory management. The RealReal is witnessing a downward slope and the resale business also looks for way to re-model their business and is connecting with their customers virtually. But there is a viability of resale business in European and Asian markets and the big brands like Gucci and Chanel will invest in pre-owned business to avoid counterfeits in the market.

With environment and economy conscious consumers on the rise, another viable option to experience luxury is

through renting. Renting becomes the new owning. There is an increasing number of online apps and platforms which offer an option for renting luxury items for a subscription. With this the consumers can flaunt the luxury for a specific period with less investment and maintenance. Renting is extended across various sectors of luxury from homes (AirBnb, Homeaway), clothing (Rent n Flaunt, Le Tote), Accessories (Bag, Borrow or Steal), Cars (Rolls-Royce Drophead, Turo) etc...

Emergence of new players in the market

The introduction of Amazon's Luxury Stores and the Farfetch China are two notable entrants to the luxury industry in the pandemic era.

The launch of a section on Amazon's mobile app called the Luxury stores in the fashion sector on September 2020, has been an opportunity for the already struggling fashion department stores, as it serves as a new channel for distribution. The Amazon luxury stores provide an efficient gateway for designers who find it difficult to connect with the consumers and the retailers who are facing bankruptcy. The Amazon's luxury stores will provide a 360-degree interactive window for shoppers to view items on different body types and skin tones. It has also stated it provides the retailers the option for independent decision regarding product assortment, price, delivery and service options. With its strong customer database and technology adoption, the Amazon luxury stores will play a dominant competitive role in the luxury business.

Another new entrant in the luxury industry amidst the pandemic is the creation of online marketplace Farfetch China, the most high profile luxury e-commerce deal with \$1.1 billion venture between Richemont, Alibaba, Artémis and Farfetch and a joint investment of \$600 million by Alibaba and Richemont in Farfetch resulting in a quarter percent stake in Farfetch's operations in China.

During the period of extended lockdown with increased consumers purchase through smart devices and reduced store footprints, Farfetch's e-commerce share of the global luxury market nearly doubled from 12%–23%. This resulted in a staggering market capitalization rise by 475% with its first ever profit during the fourth quarter of 2020. This deal has led to dedicated Farfetch shopping channels on Alibaba's Tmall Luxury Pavilion, Luxury Soho online and cross-border marketplace Tmall Global. For Richemont, this is an opportunity to tap the China market and emerge as a global digital competitor to its rival LVMH who has a strong digital presence, 24S and Lyst, since 2017. For Alibaba, who have been tapping the US market with its B2B selling program and the use of Western influencers in social media promotions, this deal would make it a global competitor to Amazon in the luxury space. Farfetch would benefit from Alibaba's strong data capabilities and mark a footprint in the East and South-east Asia.

Reconfigured Business Models

The business models are focusing more on vertical integration and omni-channel strategy to emerge victoriously from the pandemic. From Gucci to Hermes and fast fashion retailers like Zara and H&M were slowly moving towards vertical integration even before the pandemic to avoid bankruptcy and better value chain management. Though this sector is composed of consolidation by big players, the pandemic has proven that there is still opportunity for young independent and local players. The focus on serving the local market with the local supplies and not tourist dependent is gaining momentum as this serves as a best recovery from the pandemic. The elite and the millennial are getting inclined more towards local artisans and craftsmanship. So the luxury models should focus on culturally relevant and building up of local community craftsmanship (Luxe Digital, 2020). The marketers should work collaboratively with the Chinese market experts and incorporate brand value aligned KOLs, Asia Weibo and Douyin to make domestic communication to be successful in the Eastern market (Julia, C., 2020). The JIT management of Industry 4.0 along with digital enhancement will lead to an agile and responsive operations of the luxury sector without diluting the brand identity resulting to Luxury 4.0 offering 3D printed products to their consumers in the next five years as stated by McKinsey survey report. Also, Sustainability growth strategy is gaining momentum which is emphasized by the Forbes report which signifies millenials concern about environment (42%), animal welfare (26%) and baby boomers primary concern for ethical manufacturing (32%).

Agile Supply chain

The risks due to disruptions (natural or man-made) have a significant impact on supply chain. The disruption in one link of the supply chain will move downstream if there are no proper buffers and adequate lead times leading to a ripple effect. In an era of globalization, a small epidemic arising out of a geographical area will disperse across regions. Ivanov (2020) identifies three characteristics of an epidemic outbreak: (1) unpredictable disruption period, (2) the ripple effect and (3) consequent disruptions followed in the logistics, demand and supply. With asynchronous nature of epidemic spread and variation in disaster management followed by countries, we observe a unique angle of disruption with varying levels of period and intensity in various countries either as a ripple effect or as a lockdown. With China being the dominant player on the global luxury industry, the supply chain of this sector was temporarily impacted during the rise of the pandemic. This highlights the complex and interdependent nature of this sector. Also, we identify that there has been a disturbances in the supply and demand with consumers changing or canceling the demands of the non-essential fashion goods. This reflects the impact of epidemic on the upstream and downstream supply chains. The business should strategize on implementing agile SCM with adequate inventory management for an effective value creation (McMaster et al. 2020).

Discussions

This study highlights the following trends for the luxury brands to rebuild its business post the pandemic:

- Brands should focus on brand momentum
- Measure brand equity value by considering all the omni-channels
- Build upon Sustainable Ethical Growth strategy
- Develop agile and flexible supply value chain
- Emphasize on local crafts and heritage
- Communicate with consumers for a better exchange of data and improved sales and improve emotional connect
- Collaborate with brand value aligned influencers
- Embrace technology and data analytics
- Even though the market witnesses mergers of big players, there are opportunities for young independent local players
- Diversify the market portfolio by considering the rest of the world strategy

Conclusion

According to Altgamma foundation, "The year 2021 will be the beginning of recovery from recession and we can expect a pre-crisis return from 2022. An average growth of 14% across all luxury sectors, with 22% increase in online and 18% from Chinese market has been predicted." There is a greater scope for the use of Artificial Intelligence and Big Data and the brands who are early adaptor of this technology will gain better customer-relationship and emerge a stronger player in the market. Through this framework of the new luxury ecosystem this study identifies the key trends for an evolutionary future. Digitization and Sustainability are the silver linings to overcome this global crisis era. The luxury sector will be more dynamic, reactive, adaptable and push their creative limits to emerge stronger.

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Trends in ICT Management for Faster Adoption to Gain Competitive Advantage

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Abstract

The paper presents analytical explanation and integrated solution in trends and best practices in Technology Management in ICT domain with specific focus on critical sectors. The paper reviews key technologies in ICT domain, their trends and future directions in meeting existing challenges as well as envisaged future challenges. ICT technologies are the key enablers in almost every facet of human life. It plays even vital role in diverse fields towards improving the situational awareness and providing valuable innovative solutions for issues in unthinkable ways. ICT plays a key role in enhancing productivity and efficiency in any organizations be it public or private, critical or otherwise. The value of ICT assets like computer systems, communication networks, hardware, software, media technologies coupled with latest technologies like Artificial Intelligence & Machine Learning, Big Data Analytics, IoT, Blockchain becomes a formidable force multiplier to drive modern developments, innovation and knowledge management in any organization. ICT technologies also make the management of information, critical factor in modern day, more effective and efficient. Technology Management entails all management activities involved in planning, management of resources, application of appropriate technologies to improve processes and outcomes. The major challenges faced in application of Technology Management in ICT domain are Formulating the use cases, Selection of appropriate technologies, Assimilation of requisite information resources ready for exploitation, Garnering top management support for using ICT in strategic thinking, Reengineering existing process and change management in organization, Managing the hardware resources (public or private cloud) and more importantly Monitoring and auditing for enhanced customer experience. In this ever-evolving ICT technology domain, it is important to keep pace with latest developments and this is a critical factor in adopting ever changing applications / processes as existing human force is not ready for such fast pace. However, this has changed significantly during the current Covid scenario. The paper aims to delve in to these realms to exploit latest development in ICT domain for its fast adoption and implementation in critical sectors for future ready business processes.

Keywords - ICT; Use cases; Reengineering processes; Public or Private Cloud; IMPLEMENT

Introduction

The Information and Communication Technologies (ICT) cover two distinct domains including Information Technology covering Computers (Hardware / Software), Cyber aspects, and Communication Technology covering networking, voice, video, data communication over wired or wireless media. The ever-changing nature of these technologies makes a visible impact on every facet of human life be it social, personal, Govt or corporate affairs. These fields are evolving at a faster pace than envisaged by Moore's laws. It is important to keep the pace of implementation as fast as the technology is evolving, to extract maximum benefits for competitive advantage. It is normally seen that the implementation of projects in ICT domain in any sector typically takes 4-5 years, whereas the technology changes in same period, making the implementation infructuous or irrelevant. However, if you evolve with the ICT advances, it definitely gives competitive advantage.

Methodology

This paper discusses the semi-systematic review of the literature to deal with the issues and challenges in faster adoption of the ICT technologies. A detailed literature review is envisaged to get the nuances of the ICT technologies, their applicability in current processes, and issues faced during their implementation. Thereafter, a

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qualitative analysis of the implementations of ICT technologies in certain companies will be covered to extract meaningful perspectives for faster adoption and implementation in specific time frame.

Analytical Literature Review of Key Technologies in ICT Domain

According to Soumaya El Kadiri, et al., as business conditions change rapidly, the need for integrating business and technical systems calls for novel ICT frameworks and solutions to remain concurrent in highly competitive markets. Accordingly, for all critical sectors, it is imperative that ICT technologies and trends therein need to be integrated in the existing process to evolve in more effective systems in specific timeframes. Gabriel Kabanda (2019) argues that ICT Management is heavily dependent upon the alignment of technology and business

Currently a lot of researches are available for both the impact of pandemic across various fields and also the trends in luxury industry. In this conceptual paper, we present our understanding of the luxury market scenario by collating secondary qualitative data obtained from the relevant journals and reports from global consulting firms. The aim of this article is to present the new age luxury ecosystem and propose the need for business to strategize on the relevant trends which serve as silver linings to gain brand momentum to revamp from the pandemic impact.

Theoretical Foundation

In Emergency Committee meeting, the Director-General, WHO stated that "The COVID pandemic is an unanticipated rare health crisis, the effects of which will be felt for decades to come." This immense and prolonged epidemic led to unexpected and unprepared economic shock with different industries affected in varying degrees in strategies, and includes considering the value creation that is created through technology. As per T. H. AlBalushi and S. Ali (2015), with the development of a greater number and variety of e-services, citizens have higher expectations and demands and they only quest for those government e-services that are high in quality (i.e., as far as performance, security, availability, etc. are concerned). This is made possible with converged ICT domains. Even the quality factors can be improved with latest AI&ML, Big Data Analytics tools towards customer delight.

According to Esther Le Rouzic, et al, with one third of the world population online in 2013 and an international Internet bandwidth multiplied by more than eight since 2006, the ICT sector is a non-negligible contributor of worldwide greenhouse gases emissions and power consumption. The advances in ICT domain are driving efficient energy solutions as well as contributing to green resolutions. From energy efficient IoT devices, to smart grids, to intelligent monitoring solutions, ICT plays a key role in energy efficient networks.

The ICT Roadmap is to align with contemporary technologies and corresponding Digital roadmap. There has to be continuous steps to remain updated in ICT domain and incorporate the latest technology in the ongoing projects. Existing ICT resources itself are changing the effectiveness and productivity in areas like Operations, Maintenance management, Administration, Hospital management, Accounting, Supply chain management etc. In the normal functioning of any critical sector, these ICT resources are paving the way for improvement in overall productivity and responsiveness. ICT has enabled data collection, transmission and storage of information for subsequent analysis. This is providing a background for better utilization of the available resources and the advances in ICT are evolving just to ensure its effectiveness. However, the ICT is evolving at a much faster pace than adoption by Organizations. The advancements in ICT domain are enormous. We are going to focus on following key technologies from the perspective of their relevance for current processes, relative availability of implementable solutions and feasible adoption in critical sectors:

- (a) Cloud Computing
- (b) Artificial Intelligence and Machine Learning
- (c) Big Data Analytics
- (d) Blockchain
- (e) Robotics Process Automation

(f) Software Defined Networking

(g) 5G

(h) Cyber Security, encompassing all above aspects

Cloud Computing

Cloud computing technology definitely minimizes the usage cost of computing resources while optimizing the resource utilization. The advances in hyper converged infrastructure make the fit case for exploiting cloud computing for migrating old systems to the cloud computing systems.

The private cloud or public cloud options are there to explore. A flexible and cost-efficient cloud deployments are integrating newer concepts of load balancing, integrated monitoring, secure storage etc. The need based dynamic allocation of resources, easy implementation of roles, secure access and orchestration makes it the right infrastructure for adoption. Cloud Computing optimally allocates both processing ability and bandwidth as well as works on optimized electric power capacity with latest advancements.

Artificial Intelligence and Machine Learning

Artificial Engineering (AI) and Machine Learning (ML) have arrived in the market and have the potential to transform the processes than ever before. Massive volumes of data are getting generated across the globe. AI is complementing human intelligence and it enables greater insight from data for helping human experts making better decisions and providing better advice. All the facets of thinking, perceiving, learning, problem solving and decision making are enabling the AI implementations.

The Natural Language processing can be effectively utilized to find anomalies even in multilingual architecture. D. Mujtaba and N. Mahapatra (2019) clearly states that several datasets and knowledge representations for question answering, coreference resolution, and inference tasks have been discussed and built upon in the NLP community.

The facial recognition technology is another important facet of AI&ML evolving at faster rate aiding in monitoring and auditing. The tracking of facial activities from video is an important and challenging problem as brought out by Prem Chand Yadav, et al (2016). This paper clearly brings out that AI&ML have facilitated lot of advances in facial action tracking for Fatigue Detection, Real Time 3D Face Pose Tracking from an Uncalibrated Camera, Simultaneous facial action tracking and expression recognition using a particle filter and Simultaneous Tracking and Facial Expression Recognition using Multi-person and Multiclass Autoregressive Models. These are key advancements which can be exploited in avoiding accidents, enhancing performance of individuals and avoiding emotional aspects in key decision-making scenarios.

Big Data Analytics

Every application begins with large amounts of data. Even though various data analytics are used in primitive or advanced forms, still there are instances which prevent the analytics to be used for enhancing the human intelligence. With the aid of AI&ML, this can be overcome and Big Data Analytics can provide meaningful insights in the data by correlating, corroborating and analyzing with advanced algorithms. As rightly put by O. Baker and C. N. Thien (2020), business data are originating in various kinds of sources with different forms from conventional structured data to unstructured data, it is the input for producing useful information essential for business sustainability. The advanced algorithms and a host of resources are paving the way for extracting meaningful insights towards effective knowledge management. It also utilizes the distributed data architectures to better assimilate data from disparate sources. This makes it easy for storing the information like IoTs storing in edge servers. This can greatly enhance the application development and decision-making processes.

Blockchain Technology

Blockchain technology has evolved and is already changing traditional financial systems. It is a Distributed-ledger technology which is most commonly used for Cryptocurrency. However, the technology has immense benefits in carrying forward secure financial transactions and associated functions like auditing. Blockchain is an important

tool enabling critical distributed applications without requiring centralized trust over untrusted network. Harsh Desai, et al, (2019) clearly brings out that private blockchains have been proposed to allow more efficient and privacy-preserving data sharing among pre-approved group of nodes / participants. H. Yoo and N. Ko (2020), also brings out that smart contract mechanism based on blockchain can guarantee the automatic and secure trading. Blockchain technology can be used for securing scores of technology domains like 5G, Communication channels used for sensitive information exchange.

Robotics Process Automation

As per Y Hao, et al, recent advances in Information and Communication Technologies (ICTs) have allowed manufacturing enterprises to improve business collaboration both within an enterprise and among enterprises, for achieving mutual benefits. This can be possible due to advances in Robotics Process Automation which is revolutionizing the manufacturing as well as Supply Chain Management. Already Businesses are exploiting Virtual Factory (VF), in MSME sector through cloud-based data exchanges. These cloud-based messaging platforms are ensuring that the process automation is in line with the strategic requirements of those entities.

C. Balaguer (2004) has been vocal in bringing out research trends in robotics and automation in construction industry. RPA efforts are concentrated more in the software integration, sensory data acquisition and processing, safety and secure systems, sensor-based process control and construction industrialization. Such advancements in Robotics Process Automation can be effectively exploited in host of automation requirements especially in Manufacturing industries.

Software Defined Networking

J Bhatia, et al, states that evolving mega-trends such as mobile, social, cloud, and big data and correspondence innovations (ICT) are identifying new difficulties to evolving technologies, for which omnipresent availability, high data transmission, and dynamic management are essential. Software Defined Networking (SDN) has emerged as the default networking solution for converged infrastructure including wired as well as wireless networks, including 5G. SDN also brings in paradigm networking shift in the way we communicate information. The distinct layers for data and control planes, orchestration made possible with SDN is making seamless exchange of information across disparate platforms possible. The practical applications of SDN coupled with load balancing provides right mix of communication flexibility for running any application be it web based, app based or stack based. The nature of all new generation networks (NGN), wireless technologies, and broadband access is IP-based which ensures ease of access through any device or from any region in the world. SDN makes this functionality even more feasible due to its orchestration and management / monitoring functionalities.

5G

Y. Tan et al (2019), states that with the burgeoning of the Internet of everything, 5G network gradually attracts people's attention. After passing the technology hype around the 5G implementations, it is truly evolving in next generation of communication network capable of supporting low power endpoints with relatively high bandwidth and seamless connectivity across smart devices and other wired and wireless technologies. The advancements are making it possible for storing the data from end devices in edge devices itself, which was considered a major issue in explosion of IoT devices. The migration is in implementation stage in developed world, but surely it has the potential to bring in paradigm shift in connecting smart devices and extracting data from them.

Cyber Security

With ICT technologies breaking the glass ceilings and becoming pervasive, there is a constant cyber threat. ICT thrives on connected world and cyber agents have a sneak peak in to these connected devices be it hardware, software, firmware or communication devices. The advances in ICT are getting automated and so are the cyber weapons as well. The enormous powers of ubiquitous computing, easy access to resources and host of new tools with AI&ML, automation makes it potent force to reckon with. When the adversary is getting more powerful, there is a need to be aware and prepared for the worst. This has been evident during the Covid scenario, when most of the working is remote and ICT driving the economy and society, there has been substantial increase in cyber-attacks as

well, which is alarming. There are serious concerns about data protection, financial frauds, attacks on communication technologies including IoT, wired or wireless. World Economic Forum (WEF) has rightly enlisted cyber-attacks as the third biggest concern in Covid times only after recession and bankruptcy. All the domains covered above, Cloud / Edge computing, AI&ML, Big Data Analytics, Robotics Process Automation, Software Defined Networking and 5G, where disruptive innovation has taken place, remains sub-servient to cyber threats.

Having seen the literature about the importance of these cutting-edge ICT technologies, it is worthwhile to see their implementations to draw meaningful insights.

Implementation Case Studies

FFF Enterprises, a pharma entity, tried to migrate their SAP ERP application system to private cloud in 2016, however, due to scalability issues of hardware as well as networking devices, they had to adopt cloud computing. They migrated their entire system to Google Cloud in limited timeframe to ensure their critical pharma business is not affected. They experienced 80% improvement in speed vis a vis cost. With this migration to the cloud, the FFF managed to concentrate on innovation and support, instead of worrying about outages in their systems, which was handled by the cloud providers. A host of cloud solutions are provided from Google, Microsoft, IBM, AWS etc. for seamless migration of services and providing secure, reliable and uninterrupted services.

Cisco suffered its worst ever inventory write-down worth \$2.2b in 2001. The Cisco business and IT teams worked in unison in adopting the ICT advancements to streamline their Supply Chain Management world over. They adopted innovative RPA, 3D printing, single database instance across the world to seamlessly integrate Suppliers, Manufacturers and customers alike to ensure their Supply Chain Management system becomes the best and contribute to their success stories. Cisco promptly identified the use cases, adopted best in class ICT technologies, and reengineered their processes in time to reap the benefits.

Renowned banks are embracing AI&ML for fraud detection, customer service, credit service and loan decisions and meeting regulatory compliance. There have been numerous success stories in EdTech industry, especially in Covid scenario, to adopt the ICT developments like AI&ML, BDA in formulation of courses, student behavior analysis, assimilation of results etc. This is helping improve retention of students which had been the key concern. AI&ML are being extensively utilized by Human Resources to screen the applications and improve the employee retention with analysis of employee behavior on real time basis.

Retail industry also adopted ICT technologies and most of the e-tailers like Naykaa, Amazon, Flipkart etc. could improve customer satisfaction to delight by improving their delivery schedules, supply chain aspects and analysis of customer requirements on real time basis.

A leading middle east-based refinery adopted the ICT technologies including cloud, big data analytics, AI&ML to focus on value addition in planning & scheduling, refinery operations, process engineering, maintenance & reliability and safety environment. The gap analysis was done and the processes were reengineered with ICT resulting in increase in refining margins, reliability of plant and reduction in annual maintenance costs to the tune of \$2m.

In a latest adoption of Blockchain technology, a critical problem of vaccine tracking and distribution of Covid vaccines is being tried out. Distribution across the world, with short supply, batching process and need to keep it under strict environmental conditions, poses complex problems which are being addressed by IoT and Blockchain technologies. In recent instances across the world, the social media could filter out outliers, unwanted objectionable content through effective use of AI&ML and big data analytics. Though the very ICT technologies are enabling hackers to automate attacks, make it possible from distributed sources, the same technologies provide effective ways through AI&ML, BDA to counter them in real time. A score of such cyber-attacks were detected and counter measures were deployed to further stop the damages caused.

The biggest proponent of Cloud technologies, Microsoft was at one time lagging behind in the market after creating behemoths like Google, Facebook etc. due to culture in adopting to latest ICT developments. Microsoft, after realizing lack of profits, and competition from IBM, AWS, ventured in to Cloud technologies with their Azure

framework and concentrated on AI&ML, Power BI, Mobile ready OS and Office solutions. This paved the way for Microsoft to be back in to the market.

There have been instances of businesses being wrapped up because of non-adoption of technologies in right earnest. Kodak, despite developing first digital camera in 1975, could not see the digital wave, advances in ICT technologies like storing, transmission of digital images, and went bankrupt. Similarly, Blockbuster, most prominent video on rental service provider in 2004, could not adopt ICT technologies and filed for bankruptcy in 2010.

Analysis

The ontological qualitative analysis of all these implementation case studies clearly brings out the enormous advantages of adopting the technologies in ICT domain in right earnest. It also brings out some common issues being faced in the implementations like

- (a) There is a clear requirement for technology forecasting and identifying appropriate use cases for adoption in right earnest. The earlier it is realized, the faster will be the adoption. The use cases and implementations can be forward looking.
- (b) Though there are no clear timelines available in the implementations in case studies, it can be deducted from the open-source information available, that the ICT technologies were adopted in a span to two to three years. For large organizations, adoption by multiple entities will take time, however, it is pertinent to note that the solutions made available by the ICT vendors outweighs the resistance to change management.
- (c) Clear implementation plans are the key to faster adoption. Clear objectives, definite timelines and efficient implementation by all stakeholders was key to timely completion of the ICT projects.
- (d) Documenting the process also was found to be important to take forward the advantages.

Implement Model for Faster Adoption of new Technologies in ICT Domain

Having seen the analysis of latest key technologies in ICT domain, it is imperative to exploit these technologies to the best of their abilities for improvement in productivity and performance of systems. It is extremely important to take a lead in identifying and implementing latest developments as they become available. The stability is one of the issues for rapid transition, however, same can be effectively managed with careful planning, Technology road mapping and following the path to the hilt.

There is an urgent need to adopt these latest developments in ICT domain in right earnest to extract maximum benefits. Following IMPLEMENT model is proposed to actually put the process in action in a time-bound manner. IMPLEMENT stands for:

I	Identify innovative use cases
M	Manipulation of appropriate ICT technologies
P	Provide top management support for using ICT in strategic thinking
L	Leverage requisite information resources for exploitation
E	Ensure availability of hardware and software resources (public or private cloud)
M	Managing transition of existing process through change management
E	Ensure effective monitoring and auditing for enhanced customer experience
N	Negotiate feedbacks
T	Transfer knowledge to requisite teams

The implementation strategy covered herein is the key to adopting the latest ICT advancements in almost every facet of functioning. The details of the model are covered below: -

I

Innovation is the key to any improvement and ICT can aid in furthering the innovation, be it new product development or processes improvement. When any application / process is aligned to the business vision, then it would substantially enhance the decision support of the organization's management. Towards this aim, anyone in the organization can identify innovative use cases while undergoing technology forecasting itself. AI & ML based chatbots and voice powered assistants can be used with centralized exchanges to enhance the user experience. AI and BDA can be utilized to search through vast data sets to cull out outliers / objectionable content from ecosystems. SDN and 5G can be used to store information at the edge and use it for effective decision making at centralized locations. Be it education, supply chain management, operational activities, maintenance management, accounting, monitoring and auditing, scores of use cases can be identified to seamless migration.

M

Manipulation of appropriate ICT technologies is the key for sustainable growth. Even in AI & ML or BDA, which algorithms to use, how to customize options provided by these latest technologies, the key answer is to manipulate these technologies to meet the use case requirements. Choosing the right communication technology from SDN to 5G considering the cost implications and ease of deployment is the core need to manipulate. The complex nature of these developments can be overcome with thorough analysis of use cases vis a vis available ICT facet. It is important to note that the beginning is to be done to ensure effective contribution of these developments.

P

Provide top management support for using ICT in strategic thinking. Without this step, it is impossible to progress in any adoption process. The organizational culture will be decided by the top management and then it becomes easy for acceptance of the changes required. The same AI&ML, BDA can give better advice to top management for growth-oriented decision making. Even the change management process covered later will be easy after acceptance by the top management. The strategic thinking can include adoption of ICT developments reaping the benefits of innovation from these advancements.

L

Leveraging requisite information resources for exploitation of ICT advancements is a key to adoption. Organizing the information is the right thing to do to manage and support the decision-making. It is important to note that the data is available in abundance and multiple formats structured, unstructured or semi-structured. However, the ICT advancements in cloud computing, Big Data Analytics with Hadoop, Mango DB, Spark etc., AI&ML algorithms can organize these vast amounts of data with SDN, 5G.

E

Ensure availability of hardware and software resources (public or private cloud). Data being the sole driver for AI&ML, BDA, RPA, Blockchain, the capacity for storing and processing can be the best driver for implementation. Storage infrastructure and huge computing resources have become commoditized and easily available from various vendors in the market. Only requirement is to identify right mix of converged infrastructure for the organization. In case of software as well, customized solutions are available for every activity. Redundancy and diversity in hardware and software must be ensured. Right mix of public and private cloud, considering the criticality of the data and its envisaged confidentiality, can be identified. AI can be utilized to analyze the data content and plan future compute / storage procurements.

M

Managing transition of existing process through change management is the next important step in adoption. This becomes easier with top management support and direction. It is important for the individuals and teams to accept

the development in ICT domain with a positive outlook. Some of the tasks of individuals / teams will become redundant with RPA, AI&ML, BDA, but ultimately, the decision making with empathy has to be done by individuals. Everyone has to unlearn and re-learn to update themselves to be relevant with adoption of new technologies.

The better the involvement in the change management, earlier and successful will be the adoption of ICT advancements. The advantages of the new technologies will far outperform the individual issues / concerns towards overall organizational objectives.

E

Ensure effective monitoring and auditing for enhanced customer experience. Network monitoring and management will be another important step in successful management of new technologies. This will also contribute to quality in every aspects of the process as every step can be corrected / consolidated with better inputs. AI&ML, BDA will provide much needed tools to efficiently monitor and audit the systems automatically. Be it applications, network or hardware, monitoring and auditing will not only aid in better situational awareness but will also provide necessary inputs for further procurement of resources which is key for competitive advantage.

N

Negotiating feedbacks is the key to improvement. The feedbacks can be positive or negative. But the essence of accepting feedbacks about any process during or after the adoption will improve the adoption. AI&ML can provide great deals of feedback based on the training data, contributing to removing the biases. The BDA algorithms also can be tweaked to extract meaningful feedback from the volumes of data available through scatter analysis, factor analysis etc. The feedback can then be used to correct RPA processes as well as network bandwidth management efficiently.

T

Transfer knowledge to requisite teams is the last and most critical step in adoption of new ICT domain technologies. AI&ML, BDA, RPA, Blockchain implementations can give great deal of knowledge management resources throughout the process. Cyber security aspects will also provide valuable inputs for ensuring secure adoption of key technologies. SDN and 5G will make it easier to assimilate and use the knowledge from any region on any kind of device, which is key for better adoption by masses. It is extremely important to capture the tacit knowledge and make it available for further innovation and modernization.

All these technologies in ICT domain like Cloud Computing, AI&ML, Big Data Analytics and Blockchain are being offered as a service framework also, which will pave the way for their immediate adoption. The IMPLEMENT framework covered above can be seen in every case study. The organizations could see the possible use cases, analyze the available options for reengineering their processes, the top management drove the change process, the changes were embraced by the employees to letter and spirit, monitoring and auditing were ensured with these technologies, feedbacks were efficiently analyzed and finally these are all available for use to take the lessons learnt forward. These adoptions of latest developments in ICT domain have resulted in increased productivity, profits, responsiveness, reduction in costs, losses and overall improvement in customer satisfaction which encouraged the organizations to innovate further. It is extremely important to keep tab on the latest developments and ensure continuous improvement is carried out. A key to maintain such a tempo is improving the skill levels and enhance the knowledge management aspects across the spectrum of our society.

Conclusion

It is important to harness the new developments in ICT domain and IMPLEMENT them in right earnest to gain maximum. It is imperative that latest developments in ICT domain can be implemented with collaborative efforts amongst agencies including public and private. ICT must be used to enable and deliver the envisaged changes towards improved productivity. The IMPLEMENT framework can be adopted with common ICT infrastructure, thereby enabling reducing concerns and fostering growth. This ICT adoption strategy will not only strengthen the

governance but also provide adequate growth opportunities to individuals and organizations alike. The adoption of IMPLEMENT ICT strategy will enable the business venture in future with requisite resources and wherewithal to excel while maintaining safe cyber security posture.

The competitive advantage will accrue in terms of militaries gaining upper hand over adversaries, hospitals getting more aware about pandemic spread or patient behavior, HR having more insights in employee retention and enhancement, individuals getting more self-development opportunities, companies gaining more in new product development and launches, with faster and continuous adoption of latest developments in ICT domain. Early adoption of these latest developments in ICT domain will surely ensure meeting the sustainable development goals of the world.

Implications for the Society and Future Research Prospects

The advances in ICT domain have revolutionized the society in multitude of ways. Especially after the Covid pandemic, ICT have ensured that the functioning of all sectors, especially education, healthcare sectors spearhead the societal changes. The current advances and implementable solutions in ICT domain will not only enhance the end user experience but will also aid in improving business processes, providing enormous growth opportunities.

The time factor analysis for effective implementation of ICT technologies can be taken forward to further streamline faster adoption. Thorough analysis needs to be done to migrate existing system with ICT technologies in time bound manner, without affecting the operations. Correlation analysis need to be undertaken for establishing impact of ICT technologies on societal needs, especially impact of AI&ML on learning effectiveness, impact of cyber security on adopting any of these ICT technologies, impact of Big Data Analytics on productivity and efficiency, etc.

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No more TOP SECRET to wellbeing of Engineering Educators: A theoretical model during Covid-19

Dr. Poonam Jindal * Dr. Yamini Meduri **

Abstract

Covid-19 pandemic has brought the unprecedented conditions for the whole wide world. Education world is no different in terms of getting impacted because of the covid-19 pandemic. The overnight shift to online teaching is the new normal for every education institute. The bigger challenge arises for the engineering institutions after observing the fast-changing technological challenge taking place everywhere. This article is an attempt to understand the well-being states of engineering educators. The relationship among perceived organisational support, workplace friendship and well being was the main objective of the study. By using these three constructs a theoretical model is designed and different items of the constructs help in developing a framework named as TOP SECRET (TS). Study is an effort of understanding how these TS parameters are no more TS for educators and institutions. Article is based on the literature review of the three constructs. Various seminal works in the area are taken into consideration for describing the TS parameters. To test the model, an empirical study is suggested for future research scope.

Introduction

When Engineering, an area buried under practical learning cloud, moved online due to Covid-19 pandemic, the challenges the situation has uprooted have outnumbered when compared to other STEM disciplines. Being the domain specific professionals, the engineering faculty and students were expected to be the know-it-all when it came to virtual learning through a digital platform. The reality was quite the opposite, the faculty of engineering suffered more in moving to online platforms specially with the practical learning. With the sudden disruption in the household help, schools, care centers etc., the situation added on to the professional stress leading to higher differentials in academic productivity.

In spite of the AICTE directives to the colleges to pay salaries on time, engineering faculty faced a nightmare in managing through their salary cuts. This further added on to the anxiety leading to a deeper impact of the pandemic. With the professional and personal lives in a mess, the engineering faculty experienced stress at different levels during the lockdown and later too. This resulted in extreme psychological impact of the educator on student learning as well. Institutions have created different platforms to ensure that the teaching learning does not get effected but the stressed teachers had to bear the brunt of the situation. This drastically effected the productivity of the engineering faculty with respect to research, consulting etc. and the situation is much deeper with the female employees (Krukowski, Jagsi & Cardel, 2020).

A survey report by QS IGAUGE, which rates colleges and universities in India with complete operational control held by the London-based Quacquarelli Symonds (QS), which comes out with coveted global university rankings in the Faculty Academic Review for Excellence (FARE) survey in 2020 highlighted as high as 45% of the engineering faculty are finding it difficult to cope with the stress and burnout experienced in the wake of Covid-19 pandemic and the digital transformation of the education process in the engineering domain. The report also highlighted that the online teaching as a reason for almost 60% of the faculty for moderate to high increase in their anxiety levels.

The scenario might have been different when the institutions provided the necessary support by creating an empathy driven environment to support the educators not only with the necessary technology required for online teaching but also with the necessary psychological support for better well-being. A study conducted by Evanoff, et. al. (2020) on university employees showed a significant and positive impact of the supervisory support on the emotional wellbeing of the employees in the wake of pandemic. This was also highlighted by a study by Lee, et. al. (2021) which suggested that the organizational support improved wellbeing and pointed out a significant impact on the self-efficacy.

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A further analysis of the current studies in the wake of the pandemic on stress and wellbeing focused on the health care workers (Rossi, et. al. 2020; Kinman, Teoh & Harriss, 2020; Gavin, et. al., 2020), students (Bono, Reil & Hescoc, 2020, Charles, et. al, 2021), Information Technology employees (Prasad, Vaidya & Mangipudi, 2020); high school teachers (Košir, et. al. 2020) and very less focus was on engineering educators. The current study attempted to understand the state of wellbeing of engineering educators during the pandemic.

The further sections of the article explain the theoretical framework underlying the foundation for the study. The constructs are defined, and the hypothesized relationships are established through a detailed review of literature. The methodology section explains the review framework and inferences drawn. Based on the findings, the final sections propose the recommendations for the management of engineering colleges which can improve the educator wellbeing which can in-turn improve the effectiveness of the teaching learning process and educator productivity.

From the times immemorial, it has been stressed on building workplace relationships and strengthening workplace friendships can develop organizational citizenship behaviour that denotes the sense of belongingness of the employees towards the organization which can positively impact job performance (Ong, 2013; Kleine, Choi & Ko, 2020). In the wake of the pandemic, the relationship further strengthened showing a positive impact on the emotional wellbeing of the employees (Polizzi, Lynn & Perry, 2020; Zhuang, et. al., 2020).

The covid-19 pandemic has drastically modified the workplace behaviours and employer expectations that every initiative to support and take care of the employees has resulted in positive results. The current study, therefore, attempted to study the relationship between the emotional well being, perceived organizational support and workplace friendship.

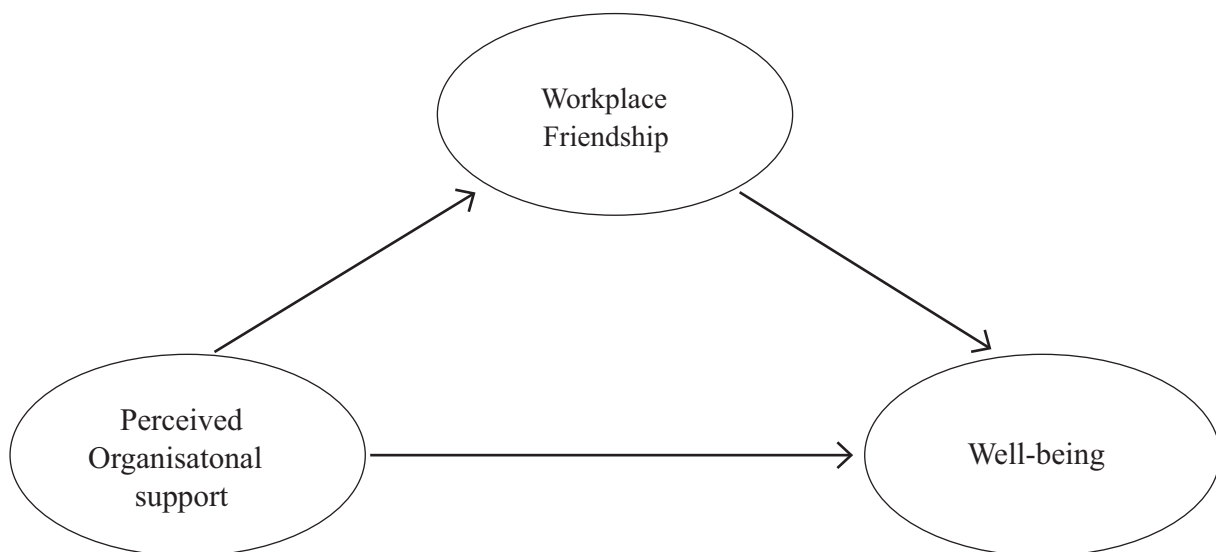


Figure 1. Foundational Model

Review of Literature

Based on a basic foundational evidence from the existing literature, it is understood that there could be a possible relationship between the three variables considered for developing the model i.e., Perceived Organizational Support, Workplace Friendship and Wellbeing. This section explains each of these variables through a decent review of existing literature.

Perceived Organisational Support (POS)

POS has taken a very important role in various organisational context research studies since its emergence around three decades ago. Studies on employees performance, stress, well-being, turnover intentions, commitment, job satisfaction and many more construct have found the place for POS. Perceived Organisational Support (POS) is defined as the extent organisation supports and appreciates the efforts of employees and care about them. POS

integrates the employee's conviction that appreciation for efforts is conveyed through acknowledgement, job enhancement, supervisor's support, compensation, other benefits, and Human resource management practices. According to Eisenberger (2002), more than 275 studies are published using POS as construct (Rhoades & Eisenberger, 2002; Cropanzano, Howes, Grandy & Toth, 1997; Moorman, Blakely & Niehoff, 1998; Settoon et al., 1996; Wayne et al., 1997; Allen, Shore & Griffeth, 2003; Eisenberger et al., 1999 to cite a few).

Studies concentrating on measuring perceived employer commitment, which was called a survey of Perceived Organisational Support suggested that perceived organizational support (POS) is an initiator of organisational commitment (Eisenberger, Hutchinson, Hutchinson, and Sowa, 1986). The social exchange idea was used to explain this phenomenon. An employee's perception about organisation's commitment towards oneself builds the employee's commitment to the organisation in return. The results of the study suggested that the social exchange idea fits well with the POS idea (Eisenberger et al., 1986).

The social-exchange literature suggests that organizational commitment reflects employees' perceptions about the nature of the relationship that exists between themselves and the employing organization. According to Eisenberger et al. (1986), "employees develop global beliefs concerning the extent to which the organization values their contributions and cares about their well-being" (p. 501).

There are various research studies indicating that employees having high level of POS receive their job experience as more positively showing increased job satisfaction, reduced stress and positive attitude. Such employees have shown more interest in new learning and invest more in organisation and work increasing the level of affective commitment and ultimately increasing their performance (Rhoades & Eisenberger, 2002).

A study that investigated the relationship of impact of POS on individual and group withdrawal behaviour found that, in groups where employees observe other peers withdrawing from work, the desire of the entire group to take part in withdrawal would be increased. In such situations, high POS may prevent this contagious effect of withdrawal behaviour (Eder & Eisenberger, 2008). If employee is valued in organisation, that leads to better career growth, salary, trust and respect, and access to information. He gets better situation to carry out his job and withdrawal may not happen. There are negative relationship aspects between better POS and intent to leave, that guides to management to create better environment for their employees to retain them (Makanjee et al., 2006).

A meta-analysis carried out on POS research (Rhoades and Eisenberger, 2002) indicates that there are three level of favourable conditions which employees perceive as POS are fairness of treatment in the system, manager's support, and reward and benefits including job support. Research has focused on the POS and career development opportunities for knowledge workers employees for taking decision about turnover. POS becomes big reason for employee's perception about their wellbeing at workplace.

Developing a supportive environment is the beneficial investment for organisations. The positive relations are established among POS and employee well-being, employee engagement (Caesens et al., 2016). Research has also indicated the negative relationship of POS and stress and burnout among employees (Walters & Raybould, 2007). Apprehension regarding employee well-being is seen through the organisational policies and human resources practices that expedite fulfilling work and life demands (Worley, Fuqua, & Hellman, 2009).

Taking cue from multiple studies, a good eleven variables are observed to better define POS. The variables are Value to work, Appreciation, Goals and values, Interest, Helping and transparent, Well-being, Satisfaction, Concern, Opinion and expression, Accomplishment, and Interesting Job. These variables present a deeper understanding of POS and how much organizations should be considering them for better productivity.

Workplace Friendship

People develop profound relationships with others because of their social need (Robbins, 2018), which is a psychological need of getting affiliated with others in any context. Hence, they develop workplace friendships. Friendship is defined as a deliberate, individual, and personal relationship usually offering warmth and support (Fehr, 1999). Friendships can be on various levels and forms of intimacy (Spencer & pahl, 2006) and is mostly about sharing similar interests and experiences at workplace or any other context, and providing support in different ways

(Pedersen & Lewis, 2012). The definitions of workplace friendship are though changed from common kinds of friendship. It mainly focuses on friendship that occurs in the workplace (Song, 2005).

Workplace friendship is a different form of friendship that occurs among coworkers and includes mutual trust, commitment, socialisation and sharing common interest and values (Berman, West, Maurice, & Richter, 2002). In workplace friendship people share instrumental and emotional support with each other by providing practical assistance and empathy. It is not merely acquaintances. Workplace friendship has two dimensions, opportunities of friendship at workplace and friendship prevalence (Nielsen et al., 2000). The validated scale is used to measure these two dimensions. Opportunities for friendship means the chances of getting to know your colleagues and communicating with them in an organisational setup and friendship prevalence is a feeling of trust, confidence and need to interact with others at workplace. Workplace friendship is not formal workplace relationship and are two different phenomena. Workplace friendship is more of voluntary relation and not bound with any formal actions. Employees choose to be friends or not (Marrison, 2004; Sias, Smith, & Avdeyeva, 2003).

The variables defining workplace friendship are Trust, Confinement, Interest in work and Socialisation.

Well-being

Well-being often defined as hedonic and eudaimonic well-being in literature. Hedonic well-being is maximising the experience of pleasure and minimising pain (Ryan & Deci, 2001), and eudaimonic well-being is when individual take the responsibility of their happiness and use their full potential for that (Waterman, 2008). Hedonic and eudaimonic wellbeing are defined in different ways in literature but a recent research (Longo, Coyne, Joseph, & Gustavsson, 2016) found that there is a high correlation between the variables of these two. This shows that the difference is not really scientific and probably only philosophical. In the current study the well-being is used as general mental well-being rather than as hedonic or eudaimonic. There are various research studies on well-being that show the direct relationship with other construct like productivity (Heffernan & Dundon, 2016), work related stress (Ilies et al., 2015), employee resilience (Huang et al., 2019), family and social support (Huang et al., 2019), workplace income (Mokhtar et al., 2015) responsiveness, efficiency and friendliness in services are the core prescriptions to enhance the competitiveness of one's country. Financial well-being and employees are two aspects that consequently related with each other that have received substantial deliberation from researchers, employers and financial advisor. Financial well-being can affect both direct and indirectly towards an individual, team and also organization. Changes in employee's financial well-being level whether it becomes high or low will affect their job performance. The purpose of this study is to discuss the level of public employee's financial well-being in Malaysia as well as to examine the determinants of financial well-being. A total of 73 questionnaires have been distributed through e-survey (email based). A research with quasi-experimental group indicates the effect of job crafting on employee's wellbeing (van Wingerden et al., 2017) highlighting that job crafting has a positive relation with employee well-being with reference to Job demand-resource theory. Meanwhile people's personality also play role in their wellbeing (Traits & Theories, 1998) this also reflects that the attitude one have for developing relations with others will impact their well-being. At workplace it becomes the responsibility of human resource management and supervisors to investigate into the matter which are related with stress and absenteeism and may have impact on employee well-being (Kuehnl et al., 2019). These studies show that there are various constructs that may have influence on employee well-being. Consequently, organisations should be interested in promoting and maintaining their employees' well-being. Employees who experience positivity and express high levels of positive psychological functioning are valuable assets to any organisation. It is, therefore, imperative to analyse organisational and personal factors that contribute to employee well-being.

The variables used to define Wellbeing are Purposeful, Meaningful and engaging, Supporting and rewarding, Happiness for others, Competent and capable, Good life, Optimistic and Respect from others.

Having defined each of the study variables, an attempt to understand them from the engineering educators' perspective was undertaken. The business organizational strategies have been re-designed to suit the engineering educational institutions.

Methodology

The main objective of the study is to design a framework for engineering educators during covid-19 times. This study is based on the literature review of three main constructs - POS, Workplace friendship and well-being. The comprehensive literature review helps in developing a theoretical framework and finally contributes to the body of knowledge.

Theoretical Framework

Covid-19 has disrupted the lives of many and the engineering educators were affected no less. With a sudden disruption of the classrooms due to Nation wide lockdown, and the regulated 'new normal' conditions, students and teachers suffered the new and complex learning environment with almost no prior training. Though known for their development and use of technology, engineering educators were very less inclined towards online teaching learning process making the pandemic more complex for students and themselves.

An observation of the engineering colleges with the best of the accreditation scores also suffered during the pandemic halting the learning process for a few months before slowly opening it up. It was observed that most of the first colleges which started online teaching, have enjoyed a good institutional support to the educators. However, the educators opined that the process was difficult mainly because of the emotional stress that employees were already experiencing because of the pandemic.

A finer understanding of the variables in discussion, Perceived Organisational Support, Workplace Friendship and Wellbeing, has helped understand the defining constructs better. Table 1 illustrates the defining variables of the three constructs.

Table 1. Defining variables

POS	Workplace friendship	Well-being
<ul style="list-style-type: none"> • Value to work • Appreciation • Goals and values • My interest • Helping and transparent • Well-being • Satisfaction • Concern • Opinion and expression • Accomplishment • Interesting Job-Engagement 	<ul style="list-style-type: none"> • Trust • Confide • Interest in work • Socialisation • Opportunity • Collective problem solving • Informal Communication 	<ul style="list-style-type: none"> • Purposeful • Meaningful and engaging • Supporting and rewarding • Happiness for others • Competent and capable • Good life • Optimistic • Respect from others

A further analysis of relevant research further reduced these generic variables to more specific variables to focus on. These variables shall help organizations, in general and engineering institutions in particular, to promote the importance of employee wellbeing and how much the formal and informal parts of the organization can play a role.

Top Secret Model

The specific variables identified through the model which can help the institutions to take the necessary actions to promote and uplift the engineering educators wellbeing which can inturn lead to better teaching learning. The 'TOP SECRET' model is an acronym for the specific variables retained out of the generic variables. The 'TOP SECRET' variables are Trust, Optimistic, Purpose, Support, Engagement, Competent, Rewards, Expression & Transparency. The 'TOP SECRET' model is illustrated in Table 2.

Table 2. TOP SECRET Model

Variable	Specific variables	Reference
Trust	Clarity Compassion Connection	Horsager (2012)
Optimistic	Positive Work Environment Hygiene Factors Collaborative goals & growth	Murphy (2015)
Purpose	Identify and connect to people purpose Recognize the need for authenticity Environment to find Meaning for work	Quinn, & Thakor (2018)
Support	Supervisory support Improving perceptive social support Reducing Stressors	Taylor (2008)
Engagement	Explicit Support Solicit Feedback Commit to Employee's employment	Jones & Kober (2019)
Competent	Capability enhancement Career development support Opportunity to diversify	Latha (2020)
Rewards	Recognition of good quality Salary Commitment Career progression opportunities	Hafza, Shah, Jamsheed, & Zaman (2011)
Expression	Open Communication Voice their dissent Participative decision making	Kassing (2000)
Transparency	Quality of intentionally shared information Coherence and comprehensibility Timeliness	Schnackenberg & Tomlinson (2016)

The 'TOP SECRET' variables can help educational institutions to work on core principles that help organizations survive and sustain during and after the pandemic. With the educators being the core of any educational institution and it's the faculty that help institutions gain sustainable competitive advantage, it has become more crucial for the institutions to manage them well during a crisis.

Horsager's research at Trust Edge Leadership Institute has identified eight key qualities to focus on, but three of these elements have been seen to have a higher impact on faculty commitment which are Clarity, Compassion and Connection. It is important that the institutions work towards bringing role clarity for the faculty and define clear expectations from them. Enabling the leadership to show compassion towards the faculty can set an example for the faculty to empathize with the students which ultimately leads to Connection which is the major factor contributing to the success of an institution. Such an environment of trust when coupled with optimistic environment can help to explore personal and organizational purposes with a right alignment leading to astonishing results. An optimistic environment can trigger and increase intrinsic motivation which can ultimately lead to better performance and work collaboration. Developing the essence of trust and optimism through a sense of purpose and connecting faculty to that ultimate purpose of the institution and their profession can unleash a variety of positive energizers. The three aspects of Trust, Optimistic and Purpose factors of the 'TOP SECRET' model are more environment, culture and leadership driven factors which show a positive impact on the teaching learning process.

The next six factors of the 'TOP SECRET' model are more structural and process driven factors which when taken care of can drive results. There is a possibility that though there is a good environment, culture and leadership

influence, if the structural and process driven factors are not taken care of, the idea of performance still lags behind. As important are the first three 'soft' factors, so are the next six 'hard' factors.

Most of the engineering educators have found it difficult in the earlier days of the pandemic is with the infrastructural support provided by the institutions. It is definitely the responsibility of the institutions to provide the space and personnel support for carrying on with the online education model which was new to both the educators and the students. It is the perception of this support which makes a big difference to all the efforts of the institutional leadership. The idea of engagement in educational institutions is more basic than any other aspect of people management. There are a lot of implied support systems which are less focused by the institutions. However, the pandemic has mandated that efforts have to be explicitly made to support the educators so they remain motivated and engaged during the complex situations. It is more important for the institutions to solicit feedback and ask employees to freely share information, both frustration and ideas for development in a productive way. Beyond all, it is important for the leadership to communicate upfront with the employees to ensure better communication and ultimately lead to better performance.

Covid-19 pandemic has thrown different set of challenges to the educators who lost jobs as the admission numbers faltered the plans. It is needless to say that engagement and commitment can only be sought from the employees when the institution commits to the employee's employment. The pandemic has also thrown up a lot of opportunities to upskill and reskill one's employees. Institutions should work towards capability development and support career development which can show a positive support for the employees during the complex times. With a lot of technological advancements seen due to the pandemic, institutions must encourage the educators to diversify and design new outlets to deliver such diversity in content.

One of the major aspect of people management that got affected by the pandemic is the rewards and recognition phenomenon. It is also an opportunity to redesign the reward strategy through a good non-financial benefits policy which can not only recognize the efforts but also help the institution to gain the faculty commitment. Empowerment, job crafting and challenging tasks through job enrichment can be a booster to educator commitment along with the regular increments and fringe benefits.

Creating an open environment for expression letting employees voice their dissent and share open feedback and/or opinions can bring in a sense of participation in decision making and take up a sense of responsibility and ownership towards institutional decisions. All of these can yield positive results when the quality of intentionally shared information shows transparency. The educators' awareness, coherence and comprehensibility of the information shared through a systematic information sharing mechanism can influence the perception of 'openness' in the system. It is important that the institutions should ensure the openness, timelines, availability and accessibility of the information to keep them connected to the core purpose of the organization.

Conclusion

The covid-19 pandemic has drastically modified the workplace behaviours and employer expectations that every initiative to support and take care of the employees has resulted in positive results. The current study, therefore, attempted to study the relationship between the emotional well being, perceived organizational support and workplace friendship. The analysis of the existing literature helped develop a theoretical model which can help the engineering educational institutions to accelerate their teaching learning process.

Engineering educators have see a mix of opportunities and challenges during the pandemic and have been the most effected area of education with the highest expectation on delivery. The TOP SECRET model suggested in the current study can help the educational institutions to take care of the wellbeing of the educators who can highly influence the teaching learning process. With the accelerated changes in the technological advancements, it is important that the teaching learning process yields better innovations that the world is in need of currently and the institutions play an important role in the same.

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Impact of Expert System in Detecting Breast Carcinoma among Women Worldwide with Anxiety due to COVID-19

Jaya Lakshmi Vakiti *

Abstract

Breast carcinoma is one of the most often detected cancer in female, every year there we can see more than two million new diagnoses throughout the world. The anxiety with Breast cancer is one of the deadliest and COVID-19 catastrophe has now annexed yet another level to this anxiety. Breast cancer detection is difficult when the woman is in her thirties' and has just began planning a future for herself. Women are generally treated at a later, more advanced stage with poor diagnosis. If it continues then by 2030, this dangerous disease will cause most deaths among women in world than any other disease. The Breast Cancer Detection and Medicament Technologies industry has expertise astonishing advancements in 2020 with different crucial techniques and improvements boosting the digital health market. Machine learning and Artificial Intelligence predict disease risk from Breast Carcinoma. There are different methods used in detecting carcinoma at early stages with expert systems such as Computed tomography laser mammography, computer-aided detection, Magnetic Resonance Imaging, Microwave Imaging, Electrical Impedance Scanning, Digital Tomosynthesis Mammography, Sonography, Digital Infrared Imaging etc. An extensive advance in healthcare practice is the incorporation of Clinical Decision Support Systems (CDSSs) to help and assist medical workforce in clinical decision-making, hence developing the quality of decisions and complete patient care while reducing costs. The utilization and operation of CDSSs in Breast Carcinoma care in present situation is gradually increasing. Although there may be variation in how certain CDSSs are developed, the decisions they suggest, and how they are used in medical practice. The Expert System which helps decision-making in Breast Carcinoma treatment is provided along with certain advantages, risks and Challenges for development.

Keywords - Breast Carcinoma, anxiety, Expert System, Artificial Intelligence, Digital Mammography, COVID-19.

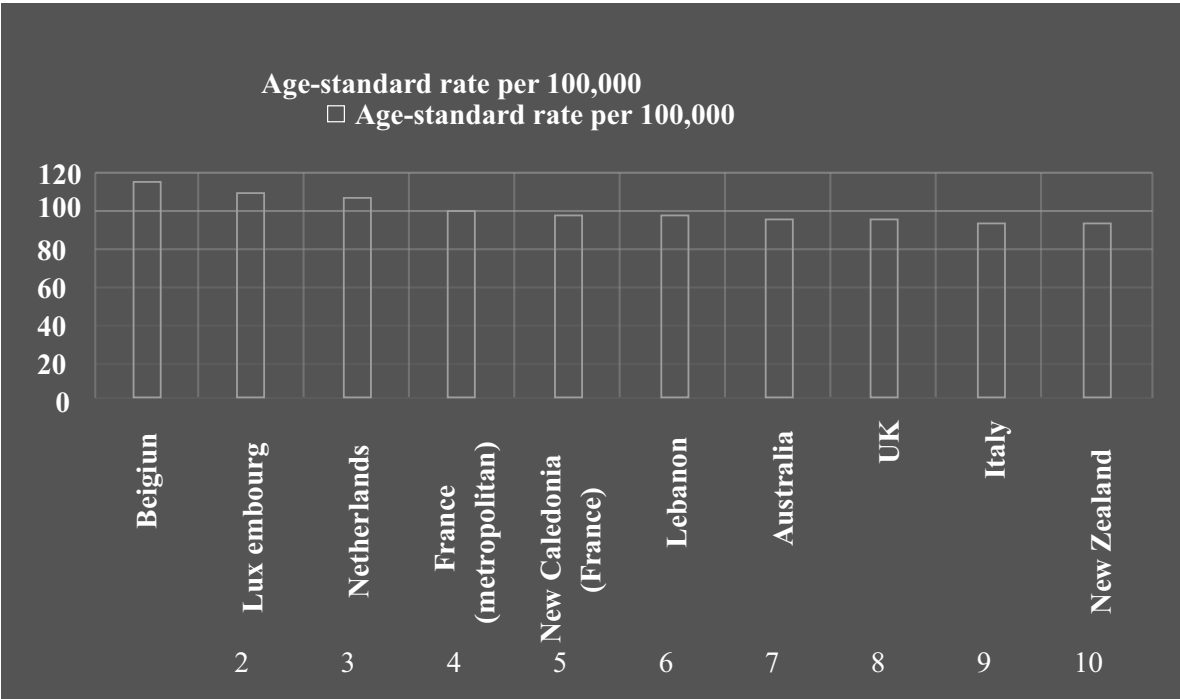
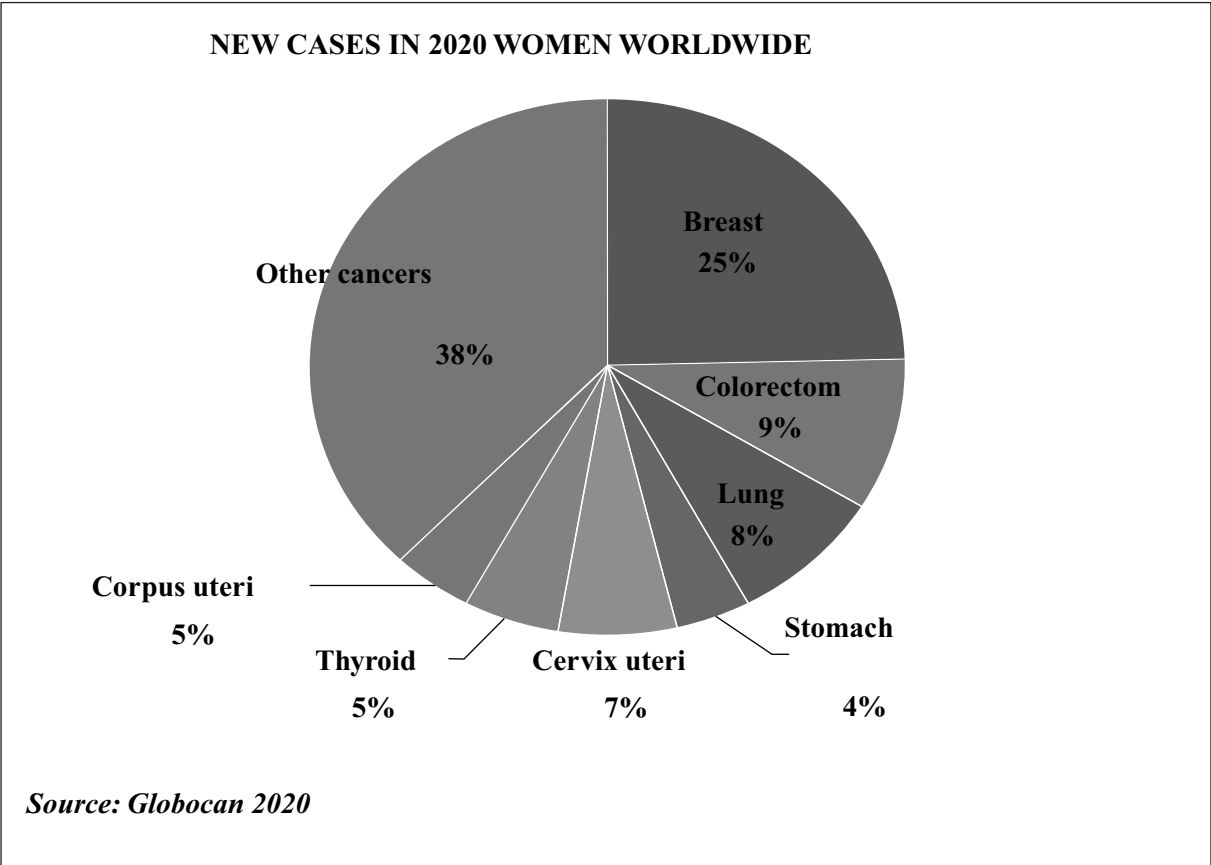
Introduction

Expert Systems can study how human brain envisage, grasp, choose and work, when it attempts to solve problems. Various tools and techniques are used in Expert Systems like artificial neural networks, psychology economics statistics, mathematics probability computer science, information engineering etc. Novel technologies are being developed and are more advanced in the detection and diagnosis of breast carcinoma. Medical expert-based systems are computer systems that have been instructed and trained with actual cases to perform sophisticated tasks. Some notable systems include Mycin for infectious diseases, and Internist-1, QMR and DXplain, Oncoin Quantx, e-morph koios medsol, IASST-IHC for general internal medicine.

Breast cancer testing programs are presently executed in most advanced countries and have been shown to rise earlier stage breast carcinoma recognition leading to developed diagnosis and reduction in death rates. Mammography is the most important screening tool for breast cancer for decades with more than billion women being scanned each year around the world.

The use of artificial intelligence (AI) in medical imaging, various innovative algorithms based on deep learning have been established and applied to digital mammography. Initial investigations have proved that the use of expert systems or AI systems as contemporaneous readers for analysing mammograms can increase efficiency of the doctors in terms of sensitivity and time. Medical expert systems usually include a knowledge base and rule based inference to generate a differential diagnosis.

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Source: Globocan 2020

2.0 TYPES OF EXPERT SYSTEM IN BREAST CARCINOMA HEALTH CARE

Breast Cancer Detecton

DIGITAL MAMMOGRAPHY	SONOGRAPHY
COMPUTER TOMOGRAPHY LAYER MAMMOGRAPHY	ELECTRONIC PALPATION
DIGITAL TOMO SYNTHESIS	DIFFRACTION ENHANCED IMAGING
DIGITAL INFRARED IMAGING	POSITRON EMISSION TOMOGRAPHY
OPTICAL IMAGING	DIGITAL TOMOSYNTHESIS
IMAGE GUIDED BIOPSY	MAGNETIC RESONANCE SPECTROSCOPY
MAGNETIC RESONANCE IMAGING	THERMO-RHYTHMOMETRY
ELASTOGRAPHY	ELECTRICAL IMPEDANCE SCANNING
ELECTRICAL POTENTIAL MEASUREMENT	MICROWAVE IMAGING

Source: The National Center for Biotechnology Information

Digital Mammography

It is a method for storing x-ray images in digital format contradiction to x-ray film. The images are shown on a computer screen to identify the Carcinoma. The digital images may give better results when compare to regular mammography.



Computer Tomography Laser Mammography

It observes the blood circulation of tumours, and the most advantage of this Tomography laser mammography is there will be no breast compression and women feel comfortable while using this type of system. This expert system is designed especially for women who have heavy or dense breasts.

Digital Tomosynthesis Mammography

It involves rotating the x-ray machinery in a circle around the breast while taking several images. The method reduces the risk of imbricating structures from a particular angle will abstruse a carcinoma, likely generating abnormalities more noticeable. Presently, the most substantial obstacle to the acceptance of the tomographic technology is the amount of time that it takes to rebuild the image.

Digital Infrared Imaging

To do this imaging they increase circulation to the cells by transferring chemical signals to keep present blood vessels open, convert inactive vessels, and produce novel ones. The increased vascular movement repeatedly results in an rise in outward temperatures of the breast near the position of tumour, which can be seen through thermographic devices.

Optical Imaging

It is a technology used to see the haemoglobin level, identifying possible malignancies. Imaging the absorption of near-infrared light in breast tissue can quantify the haemoglobin level and amount of blood providing variance between the solid vasculature usually connected with carcinoma and healthy tissue.

Image Guided Biopsy

It play a vital part in assisting physicians do breast biopsies, particularly of abnormal regions that cannot be handled but can be imaged on a regular mammogram and also with ultrasound. By use of a computer and perusing devices to get information about the exact place of the image in three magnitudes. A needle is then injected into the breast and a tissue sample is acquired for a complete analysis to test the sample.

Magnetic Resonance Imaging

Without use of radiation it involves a strong magnet associated to a computer generates complete images of the breast. Every MRI produces number of images of the breast from all angles. A radiologist then investigates the images to detect abnormal sections that may need further examination. While doing the test the patient lie down on her stomach on the perusing board. The breast hangs into a depression on scanning board which comprises coils that identify the magnetic signal. Clinical trials are being done to decide if MRI is appreciated for screening certain women at high threat for breast carcinoma.

Elastography

Plotting the mechanical properties such as rigidity or pliability of breast nerve can detect abnormalities that are frequently linked with cancer tumour. This type of cancer discovery is termed as Elastography. Elastography combines mechanical pulsations with imaging modalities like magnetic resonance. So imaging the actions of the breast tissue in reaction to mechanical pulsations can determine abnormalities in the pliability of the breast tumours that may not be spotted by mammography.

Electrical Potential Measurement

This method associated to electrodes applied to the skin to take dimensions of electrical potential at different places on the breast. The variance in electric charge is calculated in regions of doubtful conclusions in comparison with electrodes located in a different place on the chest. The irregular development of cancer cells may result in an ionic rise with potassium pushing out of the cells and sodium pushing into cells.

Sonography (Ultrasound)

Sonography is an imaging system in which high-frequency sound waves are echoed from internal tissues. Their resonances gives an image called a sonogram. Ultrasound is not now used for routine breast cancer screening as it does not constantly notice certain initial signs of cancer such as micro calcifications, a calcium deposits in the breast that cannot be fingered but can be seen on a regular mammogram, and are the most common gauge of ductal carcinoma.

Diffraction Enhanced Imaging

In this a silicon crystal is located between the object being studied and the digital indicator where the image is recorded and the crystal diffracts a specific wavelength of x-ray giving two images. The first one is related to x-ray absorption and the second one is related to refraction. Refraction is a procedure where light, including x-rays, diverges in direction slightly due to variances in the thickness of the material it passes through. Hence the combination of these two images give more detail in the nerve and tissue.

Positron Emission Tomography (PET)

It is a technique by which cellular and molecular measures can be evaluated. Radioactive tracers injected into the blood to plot the underlying biochemistry. It tests create live computerized pictures of chemical changes of a tissue. An injection is given to a patient that contains sugar and radioactive material. This can be absorbed by cells with higher metabolism, such as tumours. However, this test is limited in identifying metastatic cancer that has moved from the breast to another place in the body. This scans are more precise in noticing larger and more antagonistic tumours linked with metastatic cancers than they are in finding smaller tumours.

Magnetic Resonance Spectroscopy (MRS)

This method can calculate the metabolism of pathological specimens and find biochemical variations, which closely connected with the existence of tumours. This method is costly and unverified, and therefore restricted to academic medical research centres.

Thermorhythmometry

It depends upon similar principles as infrared thermography to support find breast cancer, the method uses a different approach. Here the probes are located on the breast that tests the skin temperature frequently to find differences which may related to neoangiogenesis and carcinoma. To find abnormal levels that could be missed with tests that only observe the breast for a particular time, possibly missing cautionary signs that are only evident by examining the circadian temperature of patients.

Electrical Impedance Scanning

Various tissues have various levels of electrical resistance Electrical impedance is lower in cancerous breast tissue compared to healthy breast tissue. So electrical impedance scanning devices are used along with regular mammography to support notice breast carcinoma.

This scanning device contains of a scanning probe and a computer screen that shows two-dimensional pictures of the breast. It will not emit radiation but very small amount of current, is transferred into the body. The current moves through the breast, where it is tested by the scanning probe and displays as bright white spots on a computer screen. The scanner sends the picture right to a computer, permitting the physician to move the probe around the breast to get the best interpretation of the place where it is being examined.

Microwave Imaging

Recording the variances in the electrical properties can be proficient by using low-energy microwaves. Because there will be heavy water content in tumours when we observe with a healthy tissue, variances in breast tissue can be analysed by changes occurred in electrical properties. But micro calcifications, indicates of early breast cancer, can be found much smaller with mammography. Breast cancers have the possibility to show more contrast at microwave frequencies than at the x-ray frequencies which are used for mammograms.

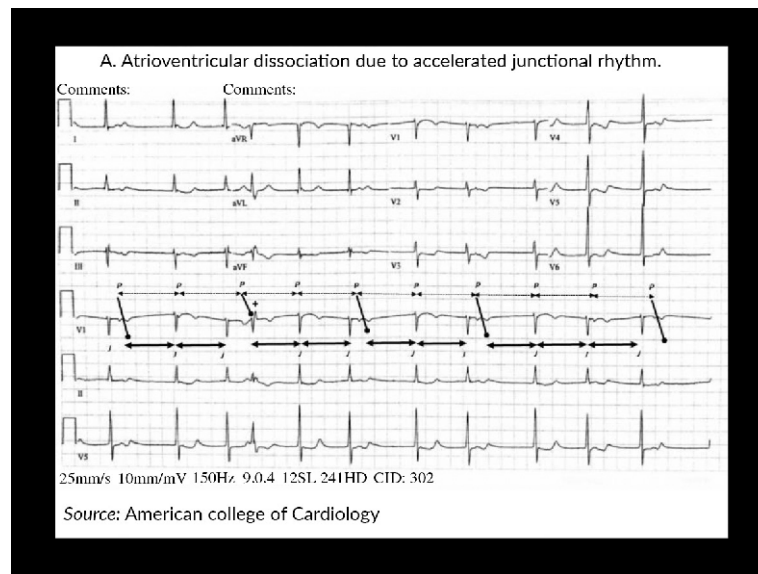
Covid-19 Anxiety on Breast Carcinoma Suffering Women

The COVID-19 disease has resulted severe impacts on people worldwide at different levels and especially on the Women Health. The medical care research and development is anticipated to show a sudden deterioration of women health in lockdown period. Severe stress, fear of death worsen the Breast carcinoma patient's metabolism rate and it can be assumed from the present circumstances brought about by the COVID-19 that the expert system techniques

or methods applied on a women may provide how much anxiety and depression they are facing when they exposed to the information regarding this COVID-19 pandemic. The scientists are estimated to slowly improve post-COVID-19, which will current eye-catching chances for expert systems across regions of the world in the next few years to help the doctors in treating the patient's best possible way and reducing the risk of dying. There are various techniques that support people lessen anxiety and depression.

Scientists instructs a computer or expert system to calculate electrocardiograms to predict irregular heartbeat of people. Researchers developed a neural network to study electrocardiogram to find patients at high risk of dying. Expert System can observe electrocardiogram test results, to determine patients at increased threat of irregular heartbeat. This gives more indication that we are on the margin of a change in medicine where expert systems will be functioning with doctors to advance patient care.

Anxiety and overthinking are frequently used words in present situation as many people are suffering from this kind of stress. But there is no successful application of expert system technology in developing people emotions.



Recent Developments of Expert System in Medical Care Sector

India-made MRI Machine by Arjun Arunachalam at Voxelgrids

This device can be transported to any place in India, as well as to remote areas, and possibly take medical imaging to the underserved parts. Peenya hub a healthcare modernization by a small firm promises to give high quality medical imaging, medical diagnosis and treatment accessible to places of India that are medically underserved. MRI machine created by Voxelgrids Innovations Private Limited is totally made in India and reduces some of the primary risks linked with common use of MRI in terms of size time and cost.



Source: <https://swarajyamag.com/technology/innovative-india-made-mri-machine-can-make-medical-imaging-affordable-and-accessible>

OncoStem Development of CanAssist Breast

CanAssist Breast is a prognostic expert system introduced by OncoStem that categorises the patients as low or high-risk based on the patient's threat of breast cancer reappearance over five years. It gives information regarding the risk of reappearance of early-stage, breast carcinoma patient's receptor-positive of hormone. This test examines acute biomarkers in the tumour to measure the danger of reappearance, and assists doctors or oncologists to identify treatment procedure.

LungXpert by Sasikala Devi

Sasikala Devi, senior assistant professor at SASTRA Deemed University, developed LungXpert, which helps doctors to have early detection of common heart and pulmonary diseases.

SigTuple Technologies

SigTuple Technologies that has leveraged expert systems including robotics and data science to advance smart screening solutions, to make healthcare inexpensive as well as precise and accessible for all.

Artivatic.ai by Layak Singh

Artivatic.ai won the challenge in the medical care sector with their invention DARVIN, which is devoted to healthcare. This DARVIN, platform designed for hospitals, healthcare institutions, insurance companies, patients, clinics and more.

Conclusion

Expert systems that have been trained with live cases to perform complicated tasks. A number of medical expert systems techniques are there and can act as assistants to doctors, clinicians, assisting in laboratory analysis. This clinical examination proved that the concurrent use of this expert systems techniques improved the diagnostic performance of doctors in the recognition of breast carcinoma without delaying their workflow. Expert systems are helpful for decision making issues and very essential for healthcare prognosis. The expert systems is proficient in facing, challenging decisions and issues.

Even tremendous technology introduced in market the cases and deaths rates is gradually increasing from many decades because of lack of awareness about the technology or self-testing and not taking proper precautions. There can be conducted lots of programs especially in rural areas to get awareness of deadliest diseases and early detection by this expert systems may help many women in the world and may reduce the breast cancer risk.

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An Analysis of levels of Financial Numeracy and Attitude among the Teachers in Higher Learning Institutions in Hyderabad

Gutti R K Prasad * Prof. Byju John**

Abstract

Financial literacy is a prerequisite for the achievement of financial goals by any individual. Due to economic liberalisation, finance is not limited to national boundaries and is across the globe's length and breadth. One can invest and borrow from anywhere in the world. After the opening up of economic gates, complex financial products are made available to investors and borrowers. To invest or borrow based on those versatile financial instruments, the person needs to have a specific financial knowledge level. This paper focuses on analysing and assessing the level of financial numeracy and attitude possessed by teachers of higher learning institutions in Hyderabad since they are the role models for their student community. For this study, a structured questionnaire has been adopted containing two sections: section 1 contains Socio-Econo-Demographic variables, and section 2 includes variables relating to financial numeracy, knowledge and attitude. Descriptive analysis has been used to analyse the data and found that 21% of the teachers' working in Higher learning institutions at Hyderabad possess a higher level of financial numeracy skills. Only 23% have a higher level of knowledge in finance, and 50% have a high financial attitude in dealing with financial matters. This study can help policymakers, corporate entities, and academic institutions enhance literacy levels in finance to improve individuals' economic wellness.

Keywords - Financial Knowledge, Financial Numeracy, Financial Attitude, Financial Behaviour and Higher learning institutions

Introduction

Background

An appropriate and sufficient understanding of financial literacy can resolve future financial concerns of different individuals. Financial learning and numeracy is a part of financial knowledge, and knowledge is a part of literacy. It consists of three elements such as financial knowledge, attitude and behaviour. This literacy and its application are essential for achieving individual financial objectives. Due to liberalisation, privatisation, and globalisation worldwide, finance is not limited to certain countries and is across the globe. Financial instruments to invest or to borrow are large in number in the financial market. Choosing the right and appropriate instrument needs a basic understanding of financial concepts to enhance economic wellness and achieve financial goals. To achieve financial objectives, one needs to make financial decisions and monitor those decisions from time to time. Economic wealth can enhance the social status of the individual.

Therefore, financial literacy and the application of such literacy lead to economic progress. This financial literacy can be achieved through education and learning programs and gaining financial numerical skills to assure appropriate economic behaviour. This study focuses on assessing teachers' ability to manage their financial numeracy and evaluate the financial attitude to make the right decisions about personal finance relating to investment, borrowing, credit card, budgeting, and meeting expenditure. Those who are aware of these matters can decide when to borrow when to invest through different financial instruments. Financial knowledge shows how an individual makes financial decisions. With knowledge and numerical skills, and the right attitude help a person create a financial vision where he wants to be in the next few years in terms of financial wealth. This knowledge affects all individuals, irrespective of their wealth, upbringing, education levels, etc. Lack of financial knowledge can lead to the acceptance of borrowings at a higher interest rate; not investing in appropriate financial securities decreases the return and increases the risk.

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Financial knowledge refers to a person's comprehension of and understanding the principles of finance, procedures, and application of that knowledge to solve financial difficulties. Financial attitude can be explained as a personal feeling towards financial matters. It is the individual features that take the form of tendencies towards an economic action. Financial literacy involves understanding financial concepts such as money management, financial planning, savings, investment and budgeting, etc. and applying those concepts in real life for financial advantage. Integration of concepts and application is a difficult job in the real world. As the awareness and experience grow, there will be a change in the individual's financial behaviour.

Financial literacy is a broad word, and it includes knowledge about finance, attitude and decisions (financial behaviour). Many people have explained financial literacy in different dimensions; however, the OECD's definition in 2011 is considered more appropriate. It has described as "A combination of awareness, knowledge, skill, attitude and behaviour necessary to make sound financial decisions and ultimately achieve individual financial wellbeing".

Need for the study

Literacy in finance is a global concern. It is critical due to complicated financial concepts, and a lack of understanding and knowledge about financial matters leads to financial inconsistency. Young workers now have more responsibility for planning and deciding their future financial needs due to India's economic reforms. Their financial behaviour is highly influenced by high job insecurity, wage differentials, easy access to consumer credit etc. A country like India, which has an extensive teaching community in various higher learning institutions, should research this subject.

Problem specification

The lack of financial skills and knowledge has become a global concern that is also noticeable in developing countries. Those who do not have financial literacy have not been encouraged to accept creative financial items, do sound financial planning, and implement their plans with serious commitment (Amer Jamel et al. 2015). Therefore, knowledge of finance leads to better planning for future financial needs. The teachers are the role model in our society to influence the student community, who is the creator of wealth for the future. They are in a position to control many aspects of an individual's life. Earlier studies have shown that financial knowledge positively impacts personal management in finance. Any person with good economic understanding can plan better for his/her finance; specifically, teachers are the sources of knowledge for society's growth and development. An effort is being made to study the teaching community's financial literacy and attitude levels working in higher learning institutions in Hyderabad.

Study's scope

The study exclusively concentrates on understanding financial numerical skills and attitude towards teachers' finance in higher learning institutions.

Importance of the study

The study's importance is to identify teachers' financial skills and attitude levels working in higher learning institutions to fulfil their future financial needs.

Study's objective

The study's objectives consist of the following:

1. To measure the financial numeracy levels of teachers
2. To assess the financial attitude of teachers
3. To provide suggestions to improve the teachers' attitude in finance.

Study limitations

The study limitations are

1. It is restricted to the teachers working in higher learning institutions in Hyderabad.
2. The method of convenience sampling method has been chosen for this study
3. There may be a possibility that some respondents might not give the actual situation that applies to them
4. The sample chosen may not ensure a proportionate representation of the entire population
5. The conclusions drawn may not be generalised

Review of Literature

Financial numeracy can be defined as processing basic numerical concepts, quantitative estimations, probability and ratios (Peters et al., 2006); Cokely et al., 2012). Financial numeracy directly affects financial management outcomes related to borrowing, savings and investments. These numeracy skills need to be implemented in real-time financial transactions without a third party's assistance (Brett Budson Mathews 2019).

Financial attitude is defined as a state of mind, opinion and judgment of a period about finances. It is the individual characteristics that take the form of tendencies towards a financial practice or action. It shows the inclination or likelihood of a person to undertake a behaviour (IGI Global)

The attitude is the response in the form of a statement of like or dislikes or useful or un-useful related to the individual financial behaviour (Potraich et al., 2016). Financial attitude will shape the way someone spends, hoards, and spend money wastefully (Furnham, 1984)

Financial numeracy is a part of financial knowledge (Lusardi 2012), and this knowledge with financial attitude and behaviour becomes financial literacy. Therefore, knowledge, attitude and behaviour lead to literacy.

The Standard and Poor's 2014 survey showed that India's literacy level in finance is low (25 per cent), and out of 28 nations in the study undertaken by Visa in the year 2012, India is ranked 23rd position.

Gutti R.K.P (2020), in his study, found that the levels of literacy in finance of students of post-graduate management studies in Hyderabad are low (33%), and male students are more financially literate than female.

In their study, **Kalyani and K Reddy (2018)** identified that the employees are technologically savvy but not financially savvy.

In their study, **Saurabh Sharma (2015)** noted that the financial literacy of young employees is not inspiring. The female literacy rate is lower than male literacy, and it is linked to levels of education and income.

Sumit Agarwal et al. (2015) assessed literacy in finance of a small cluster of Indian inhabitants who use an online investment service. The participants were found to be financially literate in general. Male respondents have a higher chance of getting the correct responses, which rises with education and the investor's aggressiveness.

Agarwala et al. (2013) conducted a survey on 3,000 people in India and determined that Indians have a lower level of financial awareness than people in other countries. Workers' and pensioners' financial behaviour and attitudes, on the other hand, remain upbeat.

Bhushan and Medury (2013) found that gender, levels of education, levels of earnings, nature of jobs, and workplace all affect literacy in finance; according to them, the geographic area does not involve financial literacy. In urban India, the young working people's financial literacy level is comparable with similar groups in other nations.

According to **Hsu-Tong Deng et al. (2013)**, school teachers at the elementary level have a high level of medium literacy level in finance and education.

In his paper, Ramakrishnan R. (2012) concluded that individuals and society need financial education to advance the economy. Consumers who can make better decisions about themselves will improve overall welfare.

The study by **Abraham and Gyensare (2012)** among 250 Cape Coast University students of undergraduate and post-graduate found that India has a lower level of financial literacy than other countries. The financial behaviour and attitude of workers and retirees, on the other hand, remain upbeat.

According to **Jason West (2012)**, financially literate people's acts do not always imply that they will behave responsibly with their money.

In comparison to people of nine other nations, the **ING Group (2011)** carried a global survey and identified that in managing finance, most Indian customers have exhibited good skills and are more optimistic in meeting any future economic obstacles. They also discovered that literacy in finance is impacted by an individual's age level, income level, and level of education. Financial literacy was higher among high-income respondents than among low-income respondents.

Lusardi, Mitchell, and Curto (2010) investigated literacy in finance among persons and found that only one-third of young adults have a basic understanding of interest rates, inflation, and risk diversification. Financial literacy was found to be closely linked to socioeconomic status and family financial sophistication.

Ronald and Grable (2009), individuals with low financial risk tolerance levels are the least financially capable and have the most inadequate subjective net worth assessment. They are still less pleased with their financial management capabilities.

According to **Wendy and Karen (2009)**, teachers understand the importance of financial education, but few trainers coaching literacy in finance are not fully equipped to teach personal finance. They also discovered that unique finance education opportunities for teachers are in high demand.

Those who got training in personal financial management do better in their financial matters (**Lewis and Linda 2009**). People with a low literacy level in finance have fewer chances to plan for superannuation, borrow at a high cost, and partake in the economic system (**Cole Shawn et al. 2009**). Literacy levels vary significantly between countries and are dependent on educational success and societal connections (**Jappelli 2009**).

According to **Jane Schuchardt et al. (2009)**, financial education results in improved financial literacy and more positive financial behaviours, motivation, and planned behaviour.

Teachers in higher education have been studied in terms of financial literacy and expertise. Financial literacy and expertise can help everyone to increase their financial resources. In this regard, an attempt is being made to assess financial literacy (numeracy) skills and attitude among teachers in Hyderabad's higher education institutions.

The Methodology Adopted for the Study

Research Design: Adopted a descriptive research method by the survey through a structured questionnaire for the present study.

Data: Both primary and secondary sources have been used to collect data for the study.

Questionnaire: A structured questionnaire has been prepared on literacy elements in finance such as financial learning, financial numeracy, financial attitude, financial knowledge, and financial behaviour in addition to socio-demographic variables and has been used to collect primary data from the teachers of higher learning institutions in Hyderabad.

Sample Description: The sampling unit used in this study is 130 teachers of higher learning institutions in Hyderabad in the age group above 25 years.

Data Presentation and Analysis

As per Table 1, out of the total 130 respondents, 42 (32.3%) are female, and 88 (67.7%) are male. The age group

mostly ranges between 25 years to 65, and the majority are ranging from 35 years to 45 years (42.3%). 54 (41.5%) teachers are brought up from semi-urban areas, 37 (28.5%) are from urban, and the remaining 39 (30%) are from rural areas. Out of the job experience, 6 to 10 years of experience are 32 teachers, 28 teachers have 11 to 15 years, and 21 have 16 to 20 years, and 20 teachers have 0 to 5 years experience. About master's degree qualification stream, 44.6% (58) teachers are from the engineering stream, followed by business administration 21.5% (28), 10% (13) are from science and 6.2% (8) are from commerce and the remaining from arts, architecture and others. All the teachers have regular income from salaries, and their income ranges between Rs.25,000 to Rs.1,50,000 and above. 42.3% (55) of teachers are having income ranges between Rs.50,000 to Rs.75,000, 35.4% (46) are having income between Rs.25,000 to Rs.50,000, 13.8% (18) teachers are earnings in the range of Rs.1,00,000 to Rs.1,50,000, very few (3) are there earning more than Rs.1,50,000 and also earning less than Rs.25,000.

Table 1. Socio-demographic profile of the respondents

Particulars	Details (categories)	Breakup Total	%
Gender	Female	42	32.3
	Male	88	67.7
	Total	130	100.0
Age group	Less than 25 years	1	.8
	Years 25 to 35	43	33.1
	Years 35 to 45	55	42.3
	Years 45 to 55	24	18.5
	Years 55 to 65	7	5.4
	Total	130	100.0
Brought up	Urban (city)	37	28.5
	Semi-Urban	54	41.5
	Rural	39	30.0
	Total	130	100.0
Experience	0 to 10 yrs.	52	40
	11 to 20 yrs.	49	37.7
	21 to 30 yrs.	22	16.9
	31 to 40 yrs.	7	5.4
	Total	130	100.0
Qualifications (Master's Degree)	Commerce	8	6.2
	Arts	7	5.4
	Business Administration	28	21.5
	Engineering & Technology	66	50.8
	Science	13	10.0
	Architecture	1	.8
	Others	7	5.4
	Total	130	100.0

Income levels	<Rs.25,000	2	1.5
	Rs.25,000 - 50,000	46	35.4
	Rs. 50,000 - 75000	55	42.3
	Rs.75,000 - 1,00,000	6	4.6
	Rs. 1,00,000 - 1,50,000	18	13.8
	More than Rs.1,50,000	3	2.3
	Total	130	100.0

Reliability analysis of variables

The reliability test has been performed through the latest version of SPSS software, and values are indicated in Table-2. Cronbach Alpha value for financial knowledge 0.928, 0.854 for financial attitude, and 0.664 for financial numeracy. All the values have more than 0.60; hence, the reliability of variables is high.

Table 2. Reliability of variables

Particulars	Cronbach Alpha	No. of items
Financial Numeracy	0.664	10
Financial Knowledge (1+2)	0.928	13
Financial Attitude	0.854	10

Construction Financial Literacy (Numeracy) score

There are ten multiple-choice questions with one correct answer to assess the level of financial numeracy levels. Each correct response has one value (1), and a wrong reply has zero value (0). The total score is 10 (10 questions multiplied by 1 for the correct response value). As per Table 3, those who scored between 0 to 5 have low financial literacy (financial numerical). Those who achieved a score between 5 to 7 are treated as medium level (average). Those who scored between 8 to 10 are determined as high levels of financial literacy since the mean value is 5.7 and the median value is 6.

Table 3. Distribution of score for financial literacy (Numeracy)

Serial Number	The score for financial literacy	Level of financial literacy (Numeracy)
1	0 to 4	Low level
2	5 to 7	Medium level (average)
3	8 to 10	High level

Levels of Financial Literacy (numeracy) of teachers

Based on Table-4, 21% (27) of teachers working in higher learning institutions at Hyderabad are equipped with a high level of financial literacy, 58% (76) is having a medium level of An analysis of levels of Financial Numeracy and Attitude among the Teachers in Higher Learning Institutions 163

financial literacy, and 21% (27) is having a low level of financial literacy. Therefore, teachers in these institutions are highly moderately financially literate.

Table 4. Levels of Financial Literacy (Numeracy)

		Frequency	Per cent	Valid Percent	Cumulative Percent
Valid	High level	27	20.8	20.8	20.8
	Medium level	76	58.5	58.5	79.2
	Low level	27	20.8	20.8	100.0
	Total	130	100.0	100.0	

Analysis of levels of financial knowledge

On analysing Table-5, one can understand that only 23% (30) of teachers have high-level financial knowledge, and 50.8% and 26.2% have medium and low financial understanding, respectively. Therefore, the study clearly showed that most teachers (51%) in higher learning institutions are moderately financially knowledgeable; this indicates that teachers have an average financial knowledge level. The reasons may be that they have working experience; they directly involved in managing their money matters; they have different financial accounts. They deal with banks and other financial institutions on routine matters for their money matters, whether to deposit or withdraw and invest elsewhere to earn a higher return.

Table 5. Analysis of levels of financial knowledge

		Frequency	Per cent	Valid Percent	Cumulative Percent
Valid	Low financial knowledge	34	26.2	26.2	26.2
	Medium financial knowledge	66	50.8	50.8	76.9
	High financial Knowledge	30	23.1	23.1	100.0
	Total	130	100.0	100.0	

Analysis of financial attitude statements

On analysing each statement as per Table-6, the financial attitude of teachers about financial matters are as follows:

Statement 1: 27.75% of teachers indicated very real, and 34.6% stated somewhat true about the message "I am in control of my financial situation". 22.3% of respondents are not sure of control of their financial situation. The minor segment, i.e., 4.6%, indicated that they are not in control of their financial situation. The majority of teachers are in control of their financial situation.

Statement 2: Approximately 45% of teachers believe they will achieve their future goals with their future income, but 31.5% are unsure. The message "capable of using future income to achieve financial goals" was disputed by 6.2% of respondents. It demonstrates that they are incapable of achieving future goals with future income, which may be because the future is uncertain and beyond their control.

Table 6. Analysis of financial attitude statements relating to financial matters

Q. NO.	Statements in relation to financial attitude	1-Not at all true	2-Some-what not true	3-Not sure	4-Some-what true	5-Very true
1	I am in control of my financial situation	6(4.6%)	14(10.8%)	29(22.3%)	45(34.6%)	36(27.7%)
2	I am capable of using my future income to achieve my financial goals	8(6.2%)	9(6.9%)	41(31.5%)	45(34.6%)	27(10.8%)
3	I feel credit cards are safe and risk free	33(24.5%)	22(16.9%)	37(28.5%)	28(21.5%)	10(7.7%)
4	I feel purchasing things are important for my happiness / comfort	16(12.4%)	20(15.4%)	39(30%)	35(26.9%)	20(15.4%)
5	I am capable of handling my financial future	8(6.2%)	12(9.2%)	26(20%)	56(43.1%)	28(21.5%)
6	I feel cost of using credit card is very high	28(21.5%)	22(16.9%)	33(25.4%)	24(18.5%)	23(17.7%)
7	Regular savings is important for my future	5(3.8%)	7(5.4%)	18(13.8%)	34(26.2%)	66(50.8%)
8	Insurance cover is important to protect from risk	6(4.6%)	8(6.2%)	23(17.7%)	37(28.5%)	56(43%)
9	I feel understanding credit terms are important before borrowing on loan or on credit card	7(5.4%)	8(6.2%)	23(17.7%)	36(27.7%)	56(43%)
10	I feel money management is important issue	5(3.8%)	8(6.2%)	16(12.3%)	27(20.8%)	74(56.9%)

Statement 3: Concerning the information "I feel credit cards are safe and risk-free", only 7.7% of respondents expressed as positively accurate, and 21.5% said some that true. The reason may be that they may be using the card for their personal use and paying the card bills on time. 28.5% expressed they are not sure about the safety and riskiness of credit, and Roughly 1/4th of respondents expressed that they are not sure about the statement. The reason could be that they may not be having the card or may not be using the cards correctly.

Statement 4: 15.4% of teachers agree with the statement, "I feel purchasing things are important for my happiness/comfort". The reason may be that they are feeling happy with the material objects. 26.9% expressed that the statement is somewhat correct. 30% of respondents are not sure at all that purchase of things brings happiness. 12.4% of teachers do not agree with the statement totally, and the reason may be that happiness is not linked to material objects, and it is a state of mind.

Statement 5: The statement "I am capable of handling my financial future" has been agreed by 21.5%, and 43.1% agree somewhat. Therefore, roughly 65% of the respondent can handle their financial future without any difficulties that are a goods sign. 20% of respondents are not sure of managing their future finances, and very marginal respondents disagree with the statement; that means they need someone's help to handle their financial future.

Statements 6: 17.7% of respondents feel that the cost of using a credit card is very high. 25% are not sure, and roughly 22% do not agree with the statement. The reason is that the use of basic cards does not involve any cost unless the card is excessively used or cash is withdrawn or unable to meet the card bills on time.

Statement 7: The message "regular saving is important for my future" has been agreed upon by more than 50% respondents. That shows the importance of savings to reduce future financial troubles. 13% are not sure, and 4% of

respondents have not agreed with the statement, and 13.8% of teachers are not sure. Almost 77% of teachers recognise the importance of savings for a safe financial future.

Statement 8: 43% of teachers have agreed about the importance of insurance cover to protect from risk, and 28.5% have somewhat agreed. That means more than 50% of respondents have agreed with the extent of insurance to reduce future risk. It shows very clearly the awareness of insurance to manage future safety. Only 17.7% are not sure, and 4.6%, i.e., a very negligible portion of respondents, disagree with the statement. It is a good sign that people are taking care of their future risk by having insurance products.

Statement 9: About understanding credit terms before borrowing on a loan or credit card, 43% agree with the idea, and 27.7% has somewhat agreed. That shows most teachers (71%) have felt very clearly that understanding the credit terms is essential before borrowing. It is an excellent sign to reduce future complications because once the loan agreement is signed in, later on, the borrower cannot state that they have not understood. Mainly the terms of loan and credit card are numerous; hence, special attention needs to be paid to digest the agreement's terms.

Statement 10: Majority (57%) of teachers have agreed that money management is an important issue. It shows the importance of money management in their daily life, and money management is financial management. 12.3% are not sure, and a very negligible portion (3.8%) has not agreed with the statement.

Analysis of levels of financial attitude

On analysing the financial attitude levels as per Table-7, 50% (65) of teachers working in higher learning institutions have a very fair (high) attitude towards financial matters. The balance has a low level of attitude towards financial issues. The high level of attitude may be due to having a high level of general education and regularly dealing with money matters in their routine life.

Table 7. Analysis of levels of financial attitude

	Frequency	Percent	Valid Percent	Cumulative Percent
High Financial attitude	65	50%	50%	50%
Low Financial attitude	65	50%	50%	100%
Total	130	100.0	100.0	

Conclusions and Suggestions

Conclusions

1. 21% of teachers are having a high level of financial literacy (numeracy) skills, and at the same time, a majority (58%) are having an average (moderate) level of financial literacy.
2. The financial knowledge level is high for 23% of teachers preparing financial plans and budgets, managing income and expenses, bills on time, savings and investment, debt and insurance.
3. 50% (65) of teachers working in higher learning institutions have a very fair (high) attitude towards financial matters, and the balance has a low level of attitude towards financial issues.
4. Based on financial attitude analysis, most respondents felt the importance of savings, money management, understanding credit terms before borrowing and undertake insurance to reduce risk. At the same time majority also thought that they are in control of their financial situation, manage their future financial needs, and the credit cards are not safe and risk-free. Minority percentage disagree about the importance of purchasing things for their happiness.

Suggestions

1. A particular orientation needs to be provided to higher learning institutions' teachers to understand various financial concepts useful in their daily lives to manage their money efficiently.
2. Non-for-profit entity) needs to be established to propagate and impart financial literacy as a sort of orientation program to reduce the financial literacy gap and reduce financial fraud due to ignorance of financial concepts.
3. In different languages, the basic financial concepts like savings, investment, insurance, pension need to be printed and distributed on a mass scale to realise the importance of money management.
4. The print and electronic media need to dedicate specific columns on financial literacy concepts to improve the common public's financial literacy levels.

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Impact of Covid-19 on Coaching Institutes

Manmath Deshpande *

Abstract

There has been a boom in the segment of coaching institutes in India in the past few years, particularly since the beginning of the 21st century. The big increase in the number of coaching institutes started at least in the 1980s itself. Since almost everything in life has to be learnt through coaching, the institutes which give training are of things which encompass many spheres of human existence, such as music, public speaking, cooking, education etc. In the education sector too, the educational service organizations are of a very wide range, such as coaching for the examinations of Grade 10 and Grade 12, which are of the Boards such as CBSE, State, ICSE etc, Joint Entrance Exams of IIT (Mains and Advanced), PMT (Pre-Medical Test) or NEET, CAT (Common Admission Test), MBA CET, Campus Recruitment Training (CRT), Programming, etc.

A new phenomenon which has come up very recently, say post-2010, is of online coaching classes. There are institutes which sell their entire course online, such as Cracku, Edushastra, HundakaFunda, CATKing, iQuanta, 2IIM, Marrow, etc. These institutes had come much before the Covid-imposed lockdown which was imposed since March 2020.

The traditional, non-online coaching institutes in India saw a decline in revenue due to the lockdown. Most of them were unprepared for this sudden change where online coaching had to be taken immediately. However, with the passage of time of the lockdown, they, or most of them, became more comfortable with and adept at the use of technology to take online classes. This paper aims to identify the impact of the lockdown on the coaching institutes, the changes that were forced to occur with regards to opening up of newer markets, changing in marketing approaches, technology management, and automation in the workplace.

Keywords - Lockdown, Covid 19, impact, coaching institutes, online

Introduction

Coaching has always been a part of any civilization in the history of civilization. A large number of school students in India take coaching now, and this number was ever-increasing with time, at least until the lockdown was imposed due to Covid-19. A report in The Hindu's Business Line on 22 December 2013 cited a report by the Asian Development Bank (ADB) published in the year 2012, which said that as many as 83 per cent students in high school in India go to private tuitions at coaching institutes. The Indian Express dated 26 June 2013 quoted a survey of students and guardians by the Associated Chambers of Commerce and Industry of India (ASSOCHAM) which was conducted in 10 Indian cities. This survey concluded that the educational coaching classes sector increased by 35 per cent between 2007 to 2013, and that in this period, the number of students in primary school attending tuition classes doubled, while the number of students in high school attending tuitions increased to 1.92 times.

The number of students attending coaching classes at Class 12, and graduate level was not mentioned, but this too can safely be assumed to be definitely rising, if it is not at saturation level already at Class 12 level.

Literature Review

Since the lockdown was announced only in March 2020, and is still in force, there do not appear to be many research papers written on the topic of its impact on coaching institutes as yet. The only literature available was the reports of newspapers and magazines on this issue, which gave statements of various stakeholders such as coaching institutes, students, teaching and non-teaching staff, parents, etc. Other research papers which covered the subject of coaching institutes (much before the lockdown) were studied.

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A PTI report of 17 April 2020, around a month after the lockdown was imposed, said that many students left their coaching institutes drowning the fees already paid when the classes closed due to lockdown, and joined new online coaching institutes, paying the full fees. In that report, a student mentioned that many of the traditional coaching institutes did not have online coaching facility at that time.

An article by The Indian Express dated 8 June 2020 said that due to the lockdown, the admissions of major institutes coaching students for IIT JEE, of which Aakash, Resonance, Allen, FITJEE, CareerPoint, PACE, Vidyamandir were mentioned by name, declined to nearly half, or even lesser at some places, and that some institutes had difficulty in even paying rent for the places taken, at least in the cities of Kota, Delhi, Mumbai, Nagpur, Raipur and Indore. It stated that Resonance's Mumbai and Raipur centres and Allen's Indore centre got only half the admissions as compared to 2019, while it was just 30% of the 2019 figures at Resonance East Delhi centre.

The report also gave an interesting fact stating that in light of the difficult situation, these institutes reduced the initial payment for seat-booking. It gave the example of a Resonance centre in Delhi which booked seats for Rs 10,000 while this amount was Rs 60,000 in 2019. There were also complaints of late payment and reduced payments by faculties teaching at these institutes.

The article further said that these institutes were scared of the professional online classes or tutoring platforms like Byjus, Unacademy, Vedantu etc who are their rivals, reducing their admissions even more. The CEO of Vedantu stated that it had seen a 150% increase in paid subscribers for coaching for competitive exams in the three months of lockdown of March to June 2020.

The Indian Express dated 20 July 2020 said that the Maharashtra Class Owners Association has nearly 1 lakh classes under its ambit and quoted the association as saying that business was reduced by 70% in the four months of ban on offline coaching classes since March 2020.

The Times of India dated 10 February 2021 reported that this Association urged the Maharashtra Government to allow offline coaching classes, and that it said that many classes may not be able to sustain and a lot of teaching and non-teaching staff may lose jobs if the classes continue only in online mode.

Technology Management

Access to Technology by Customers

The lockdown underscored the importance of digitization all across India. Had this pandemic occurred, say in the year 2000 or 2001, it would not have been possible to hold classes online, like now. That is because, at that time very few people had access to the internet, there were almost no mobile phones in the hands of ordinary people, except the very rich, and very few people had laptops or even computers. The rural part of the country, and the lower classes even in urban areas certainly did not have access to such technology.

However, in the past few years there has been rapid growth in the access to mobile phones, internet by all sections of the society, including the underclass in urban areas, and everyone in the rural areas. According to Statista, the Internet penetration rate in India was just 4% in the year 2007, from which it grew to nearly 50% in the year 2020.

A Hindustan Times article of 14 August 2020 said that the number of people using the internet in India has increased massively in the past few years, according to data compiled by the World Bank. But a large percentage of the population still does not have access to the internet. This situation is so far more in rural parts of India, households with low income, which will be classified as 'poor'.

This report said that the Delhi telecom circle (which includes other parts of the National Capital Region apart from Delhi too), as of end-2019 had a total of 169 internet subscribers per 100 people, as per TRAI data. This was the highest among all the telecom circles of India, which are 22 in number. Since many people used more than one internet connection (say, one broadband connection, while another being on mobile) the number of connections per 100 people was higher than 100. But this number was as low as 32 for Bihar and Jharkhand combined. The number of internet subscribers per 100 people was less than 50 in at least six telecom circles of India at the end of 2019.

These figures also showed a massive gap in internet usage in the urban and rural areas. The national average all over India showed that there were 106 internet subscribers per 100 people in urban areas, but this number was only 30 subscribers per 100 people in rural regions.

The Times of India reported on 6 May 2020 that for the first time the number of internet users in rural areas crossed that of those in urban areas in India (in absolute terms), in late 2019. The report by the Internet & Mobile Association of India (IAMAI) and Nielsen said that rural India had 227 million active internet users, while this number for urban India was 205 million, as of November 2019. Those who use the internet at least once in 30 days were defined as 'Active internet users' in this report. There were another 7.1 crore (i.e. 71 million) children between the age of 5 and 11 who went online using the devices of their household.

Use of technology by coaching institutes

After the lockdown was imposed in India in March 2020, there were many coaching institutes which avoided taking online classes until as late as possible. However, ultimately all those who wanted to survive had to take online coaching, and they all learnt how to take online coaching soon, some of them within as few as 2 or 3 days. Online coaching emerged as a panacea. The only things needed were a computer or laptop, tablet or smartphone and a good internet connection.

For taking online classes, two of the most popular platforms were Google Meet and Zoom. There are some differences in the working of these platforms as well. For example, in Zoom, it is possible to log in with fake IDs. Even if the entry to the Zoom meeting is done with real name, it is possible to change name after that. This has resulted in some students logging in and then changing their usernames, and with fake usernames, giving a lot of abuses and disrupting the class. This has been observed many times by various faculties on Zoom and revealed to this writer in personal interactions, and it is often either very difficult or impossible to identify the person doing so. This is not possible on Google Meet. Hence, on this count Zoom needs to improve its technology.

However, there are some shortcomings which some users claimed to exist in Google Meet. There was a feedback that in Google Meet there is a good option of screen sharing, but one cannot show anything which is not on the device (say Laptop). Thus, if one is logged in from Laptop, one can only share the screen. On Zoom, anything can be shown to students if one is logged in from mobile; one can simply shift the face of the camera and show anything written in a register etc to the students, which makes it easier. Some topics cannot be learnt by mere screen sharing, hence this facility is important to have in any technology.

In Google meet, anyone can type anything on the chat box and ask any sort of doubt, which is seen by not just the faculty, but all other students, i.e. by everyone logged in in the meeting. The benefit of this is that any doubt is seen by all other students, and any of the other students too can immediately type on the chat box and explain it to the student who asked it. However, the drawback here is that there is no facility to write in private on Google meet. If any student wants to say anything in private, only to the teacher, he or she cannot do so. Or in case a faculty asks any question, and does not want the answer to be revealed publicly so that other students who have not yet solved the question and not yet got the answer do not hear it, there is no way the answer can be told. It is seen by everyone on the chat box, on Google meet.

But on the contrary, on Zoom, there is the facility of sending a private message, where any message can be sent to any single individual. This makes it possible for students to send the answer only to the teacher, whereby other students do not automatically see the answer sent, on Zoom. If a class is being taken on Google meet, then the only way the answer can be seen by only the teacher is through other messages like in private on the teacher's personal WhatsApp number.

In such online classes, there are at times connectivity issues in case of both students as well as the teacher. If the teacher's connection is lost, the whole class halts immediately then and there. If a student's connection is lost even for a very short time, the student too can suffer if a very important thing was being taught at that very moment. After this, if the teacher repeats the part lost by a particular student due to connectivity being lost, just for him or her, a lot of time of the class is lost. Therefore, technology is very important. The use of technology in education is not a new phenomenon. The Covid-19 lockdown simply made it more prevalent.

Opening Up Of Newer Markets

It is said that 'With every adversity comes an opportunity.' This is perhaps also applicable here. Due to the lockdown, it was possible for erstwhile offline coaching institutes which were limited to one particular geographical area to get a nation-wide market. Let us take the example of an individual running a one-man coaching class 'Aptitude Development Centre' in Nagpur in the offline mode. In the lockdown, such an individual had to take classes online. This resulted in some students from other cities also joining his classes online. This was possible only due to the lockdown, which resulted in the classes being taken in the online mode and another reason could be that the offline classes were closed in other cities too. Had these offline classes been available in the other cities, students of those cities may have joined them in their cities, instead of joining an online class in a different city.

Another new market opened was the students who lived far from the location of the coaching institute within the same city. Due to the online coaching, it became accessible, easy and comfortable to attend the classes for such students. Students who were unable to join a particular institute due to too much distance, lack of transport (such as lack of personal vehicle) could join it in the online mode.

In some cities, even now, many girls are not allowed to travel at night, or even if permitted they are afraid of doing that. The coaching institutes have got even such a market segment as a new segment, since such girls can attend the classes from home in the online mode. Aptitude Development Centre, Nagpur had examples of such students got in online coaching, which it took on Google Meet or Zoom.

Professional online coaching institutes like say, Cracku or Marrow, which did not operate in the brick-and-mortar mode at all even in the pre-lockdown times, have got a lot of new customers, as reported by English dailies. Since there was no option but to go for online coaching, many students preferred the professional online institutes as compared to the brick and mortar ones. Several students revealed to this author that they did not want to go for online coaching of the brick and mortar ones. Several of the otherwise traditional brick and mortar institutes gave only recorded video lectures in their online coaching, which was not found worth going for, by many students.

Changes in Marketing Approaches

Due to only online classes being available, several institutes had or have the chance to highlight what exactly better they are doing in online coaching which other institutes are not doing. In online coaching 'What we are doing better than our competitors' can differ completely from the offline coaching. In offline coaching, everyone is present in a classroom with a teacher teaching live and interacting with the students. But in the online mode, it is not necessarily so, and simply recorded lectures could be made available.

As we mentioned, some institutes which went online simply gave pre-recorded video lectures, with no live online coaching. Many students thought the fees to be too high just for getting such pre-recorded lectures. Some other institutes (e.g. Kiran Gadkari Sir's institute for coaching of Maths in Class 12, or HR Mentors institute in Nagpur city, in the initial phase of the lockdown) uploaded videos on YouTube, and many were disappointed with that as well. In such cases, there was no personal attention given to any student, and there was no live coaching at all.

One of the most popular ways of marketing coaching institutes is and was to take guest lectures in colleges, whereby the students would get a demonstration of the teaching of the teacher. But due to the lockdown, the colleges were all closed. Hence, here the other ways of marketing were (are) needed. However, such guest lectures can be taken even in the online mode in the colleges.

Due to the lockdown, students were (are) spending a lot of time on smartphones or on the social media. Hence, giving advertisements on Facebook or Instagram is a very effective way to advertise about coaching institutes in this time. It is useful even more in lockdown than other times.

In marketing, the coaching institutes also need to encourage students to join the classes. Due to the lockdown, the market size itself has reduced.

An article in The Indian Express dated 16 November 2020 titled "Lost in lockdown" was written by three authors namely Sucharita Iyer, Shireen Jejeebhoy and Nitya Daryanani. That gave insights from a study done by the Dasra

Adolescents Collaborative and it was an attempt to understand how the COVID-19 pandemic affected the lives of the youth of India. The article said that for the study, an online survey was done which asked questions about this. The number of organizations responding to the survey was 111.

The article said that past instances showed that there is a far greater increase in the probability of girls and young women being asked to drop out, and actually dropping out of school during crises. This is the effect of the significant increase in care work and domestic work during times of crises, and also due to economic disparity making girls to help in adding to the income of the family. Females are often made to discontinue their education and are married off to reduce the financial burden of the family. It stated that this study of the Dasra Adolescents Collaborative revealed that 43 per cent of the organizations who participated in the survey stated that they knew of one or more girls, who revealed their fear of ceasing of school or whose guardians had either planned for or asked for the discontinuation of school.

After studying the report as well as the current trends due to the Covid 19 lockdown, the authors of the article published by The Indian Express gave some recommendations to the government, one of which was:

'Engage with parents, especially families of girls who are at risk of dropping out of school. Parents need to be made aware about the importance of completing studies, even in the time of economic hardships due to lockdown, especially those parents who may force their daughters to cease studies.'

The local franchise owner, i.e. centre head of TIME Nagpur said to this writer in a personal interaction on 3 March 2021 that TIME Nagpur's business went down by at least 40% if not to 40%, due to the lockdown. Among the various reasons, one major reason cited was the fact of many girls choosing not to go for Post-graduation (MBA) due to the lockdown. This resulted in reduction in size of the market itself, by such a significant level that a major player like TIME had to mention it, and it affected its business.

In case of reduction in market size, one must try to increase it. One can see this from the advertisements given by say, some toothpastes, saying that one should brush twice a day. They show a young boy going to sleep at night, saying 'Rinse the teeth with water' before sleeping, to which a dentist comes and says 'Don't just rinse, brush your teeth before going to sleep at night. Use XYZ toothpaste.' Now the motivation for the toothpaste makers to make everyone brush twice a day is to increase their consumption of toothpaste, so that more toothpaste can be sold. This is basically, increasing the market size.

The same we can see even in terms of MBA. A hoarding of a major coaching institute showed a girl with the words written: 'MBA to karna hi padega. Status. Salary. Prestige.' ('One will certainly have to do an MBA, for the sake of status, prestige, salary.') This was because the number of students going for MBA was reducing, due to various reasons such as the astronomical rise in the fees of B-schools. So the institutes had to try to make doing MBA popular again, and then hope to get students for MBA entrance exams' coaching. Exactly the same has to be done in times of lockdown.

Due to online classes, many institutes were able to save the cost of rent, at least for some time. Many of the conventional coaching centres had to pay the rent even for the time classes were not held, since their contracts were often year-wise, with their landlords. Some institutes had only monthly rental contracts, so they lost only some days of March 2020. However, after a particular point of time, majority of the institutes did not have to pay rent where physical classes were not held. This money could and should be utilized for marketing.

Workplace Automation

Institutes which are basically of the offline mode, gave pre-recorded lectures to the students as their online classes. This was actually automation. But this wasn't received as well by the students as a live class. Some students were definitely happy even with this, but many were not. Automation is fine so long as it satisfies the customer. If not, it should be discontinued.

Coaching institutes studied

The institutes studied for this purpose of understanding the impact of Covid-19 were:

1. TIME Nagpur [TIME is a national institute coaching students for MBA entrance exams like CAT, MBA CET and other such exams, Number 1 in the country]. It gave pre-recorded video lectures made available by Head Office.
2. Kiran Gadkari's institute for Maths for Class 12 and JEE coaching, Nagpur. It uploaded lectures on YouTube.
3. HR Mentors [a local institute of Nagpur, in the same category as TIME] (study was done through its students). It initially uploaded lectures on YouTube, and later took classes on Zoom.
4. Athavale's Sulabh Classes (the No. 1 coaching institute for Class 10 of Maharashtra State Board in Nagpur city). It took live classes on Zoom or Google Meet.
5. Zoom Coaching Institute (of Class 10 coaching of various boards, in Nagpur city). It took live classes on Zoom or Google Meet.
6. Marrow - an exclusively online institute coaching students for NEET (study was done through its students)
7. Cracku - an exclusively online institute coaching students for CAT (study was done through its students)
8. Working of some other institutes like Aakash, Resonance, Allen, FITJEE, CareerPoint, PACE, Vidyamandir etc was seen through newspaper reports, all of whom took online coaching.

Conclusion and Recommendations

Covid-19 had a huge impact on the coaching institutes. Adapting new technologies was very important, or rather necessary, for survival. While the traditional brick and mortar institutes had a lot of challenges, and mostly lost market share, they also got some opportunities like access to newer market segments.

Some recommendations for coaching institutes are:

1. Some ways of marketing like taking guest lectures in person in colleges were (are) lost due to colleges being closed offline. There should be an attempt to take guest lectures in the online mode, though it is not as easy as when colleges were open.
2. It is quite possible to give personal attention to every student even in online coaching. Many students want just that. So, institutes which take coaching live on Zoom or Google Meet and give personal attention should highlight those aspects of their coaching, which others can't give in YouTube videos or pre-recorded lectures.
3. Making short videos of 1 or maximum 2 minutes, and promoting them on Facebook, WhatsApp is another good way, since students spend a lot of time online in lockdown. This was a useful and good way even in the pre-lockdown times, but with physical classes closed in colleges, its importance increased a lot more.
4. The market size itself reduced, hence some strategy should be chosen by the institutes to incentivize the lost market to return to the sector itself. The segment of female students, mentioned by the head of TIME Nagpur as well as in the article 'Lost in lockdown' by The Indian Express dated 16 November 2020, needs to be specially targeted by the coaching institutes. They need to urge them to do MBA and go for similar things like government jobs, bank exams, etc whose coaching they provide.
5. The institutes could come up with the message 'Use time of lockdown to do this course by our class.'

6. Institutes should use the money saved on paying rent for physical classes on marketing.

Coaching institutes will benefit with a strong online learning management system with course material, tests, assignments being provided and having a facility to take anonymous feedback to ensure better learning. In all such online classes, there is a real problem of checking assignments, conducting subjective tests, proper invigilation. If all these issues are solved with proper technology by the institutes, not only the students, but the institutes too will benefit massively.

Those institutes which were totally in the offline mode before the lockdown mostly saw a big decline. But it was the opposite in case of those which were exclusively in the online mode already.

What will happen to online coaching in the long term, after Covid-19 ends is a very interesting matter. It is possible that there will be much greater growth of the professional online coaching classes like Cracku, Marrow etc. A PTI report of 17 April 2020 quoted the CEO of NEETprep, an online coaching institute for NEET, Kapil Gupta as saying that many students were forced to take online coaching due to the lockdown may not ever revert to classroom coaching.

That report also gave the opinion of the CEO of Catalyst Group, which is another online learning platform, Akhand Swaroop Pandit, as saying that the charges of the online coaching institutes have increased in the lockdown, and that the lockdown would result in a long-term increase in the use of online coaching institutes.

But it is quite possible that it may turn out to be exactly the opposite. Students who attended online coaching may find that offline, in person coaching, is better; and as soon as they get the chance, they may abandon online coaching. Anything can happen.

Coaching institutes need to be on their toes and be ready for anything.

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