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EDITORIAL

Higher education in India is undergoing a shift in terms of reforms and Adoption of the National Curriculum framework. NEP 2020 seeks to make education holistic, transdisciplinary, and flexible. A host of innovative academic programmes and courses are being planned in terms of skill-embedded learning and tech-driven learning methodologies. A very pertinent question that emerges is how to stay relevant in terms of Academics and Research. A deeper and insightful understanding of the demanding environment and up-skilling and upgrading to meet the emerging needs are crucial.



Sustainable models of development and the best use of resources have now emerged as key transformational thoughts. The best use of local resources and most efficient use of human power have occupied the centre stage in the world economy.

The unprecedented impact of technology on not just industry but all walks of human life is indeed phenomenal. Transforming challenges into opportunities and working under the emerging New Normal is what we need to learn and adopt. Moving into the virtual space with e-learning, MOOCs, and advanced ICT tools like Artificial Intelligence and Machine Learning systems is what will empower us. We need to transform and re-engineer ourselves for this demanding environment, and all of us are now attempting to work as a team on this.

Research and academia need to address disruptive technology, stay relevant through proper readjustment, and refocus to accommodate the demanding conditions. Products, processes, and systems that are in use today may turn out to be obsolete soon. Working with technology and digital resources would demand more specific re-engineered skills and competencies. HEIs should be change agents in imparting the same.

The industry would like to have graduates with a given set of competencies and not just an Academic Degree, and we are continuously struggling to create congenial entrepreneurship and a Start-up ecosystem. It is indeed the Academic-industry connection that makes such an eco- system a reality.

With the prime objective of showcasing pertinent research outcomes in the domains of business, trade and industry, as well as trans-disciplinary research, the Researchers' Forum, Department of Commerce, University of Kerala is bringing out the next issue of its journal Commerce and Business Researcher. We would love to disseminate vital research work in the domain of Commerce, Management and Industry.

I take this opportunity to thank all the contributors of research papers to this issue and sincerely request all my friends to come up with more research work and research publications, which we would gladly welcome. I also thank all our subscribers and the editorial team. I acknowledge with sincere gratitude the timely intellectual support from our reviewers. I request all our readers and well-wishers to kindly give us suggestions and valuable inputs on improving the journal.

The Department of Commerce is proud to announce that the University of Kerala, was reaccredited with A++ grade by NAAC in June 2022, thus making us one of the premier HEIs in the country. Our Department would like to have more collaborations and research associations with institutions of repute.

Let me conclude by wishing you all the very best and hoping to see quality research papers in the future.

Thank you.



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Workforce Agility: A Review on Agility Drivers and Organizational Practices

Muhammed Ali Kt¹ & Chitra Sivasubramanian²

Abstract

The rapid changes in the business environment compel organizations to find new strategies for operations. The notion of agility became the most predominant and popular strategy for dealing with an unpredictable environment. Despite the importance of workforce agility, literature has mainly focused on manufacturing and organizational agility, although it stresses requiring an agile workforce. The shortage of study brought limited knowledge and practice in the discipline affects the behaviour of enterprises. This article aims to provide significant research insights by exploring an extensive survey of the available literature on workforce agility. Also, it identifies various workforce agility drivers and organizational practices. It is found that an agile workforce simultaneously possesses multiple interdependent capabilities benefiting organizations operating in highly uncertain environments.

Keywords: Agility; workforce agility; agility drivers; organizational practices

Introduction

The past few decades have witnessed the constant need for organizations to adjust to changing and unpredictable environments. It is required to have competitive and differential advantages over others to embrace and adapt to the ever-changing organizational environments (Nijssen & Pauwe, 2012). Out of them many solutions proposed, flexible organization and an agile workforce have gained predominant importance. With the high technology boom and restructuring of the organization, the need for agile organizations aroused. The agility provides a competitive advantage in service quality, speed, and customer-centric behaviour (Harraf, Wanasika, Tate, & Talbott, 2015). Hence, the workforce should be equally flexible and agile as the technological processes to cope with the changing needs. Thus, agility has become exponentially crucial for organizations (Wageeh, 2016).

The agile workforce consists of creative employees with a positive mindset who believe in self-development through teamwork. The crew becomes compatible with dynamic problem solving and comes up with feasible solutions. The agility should exhibit by the top management and the entire workforce. There are five ways an organization can help the employees gain courage and skills to handle crises: (1) Retention of knowledge-force by providing better development opportunities and catering to individual requirements. (2) Empowering human resources by giving them opportunities to develop skills and gain autonomy. (3) Human values are a priority; it is of prime importance to have a workspace with cordial relationships and respect between all the communities and cultures. (4) Collaboration between different functional entities of the organizations helps generate understanding and cooperation between various entities. (5) Experimentation in terms

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of practices to promote flexibility and agility, brainstorming sessions to generate new ideas and alternate solutions and techniques to improve work-life balance and well-being of the employees.

This paper aims to provide insights into the agile workforce by analyzing the existing literature on agility. We discuss the need for an agile workforce, agility drivers and enablers, and organizational practices to promote workforce agility.

Conceptualization of Agility in the workplace

The term agile manufacturing was coined in the year 1991. The Agility Forum defined it as the ability to thrive and prosper in a competitive environment of continuous change and respond quickly to a market driven by customer preferences and customer-based valuing of products (Gunasekaran et al., 2019; Kumar, Singh, & Jain, 2019; Murray, 1996). From the definition that the speed and flexibility of the organization to adapt to its changing environment are emphasized as the primary attributes of agility (Abdelilah, El Korchi, & Balambo, 2018; Sherehiy, A., & Layer, 2007). Other aspects are responsiveness to change (Gren & Lenberg, 2019) and quality and customization of products (Boubaker, Jemaï, Sahin, & Dallery, 2019; Eltawy & Gallea, 2017; Perera, Soosay, & Sandhu, 2019). The requirements of manufacturing entities to respond to the unique pressures, cost, and quality constraints have led to the adoption of agility (Dahmardeh & Banihashemi, 2010).

As agility linked to manufacturing, technology utilization and process improvements got more comprehensive attention. Recently, organizations realized human resources as a factor that aids in adapting to the changing environment (Alavi & Wahab, 2017). Thus, the success of organizational agility depends on the speedy implementation and utilization of new technologies. Information systems, business process integration, adoption of flexible organizational structures, external and internal cooperation and most importantly, a flexible and adequately

trained workforce play a significant role in the success (Breu, Hemingway, Strathern, & Bridger, 2001; Dubey & Gunasekaran, 2015). The agile workforce accomplishes the organizational goals by proactively utilizing their creative skillset (Breu et al., 2001). Organizations must continuously remain updated about their environment to anticipate future skill requirements. The developments in information technology and its utilization in organizations have changed how the workforce performs. Agile forces are more flexible in space and time and can easily fit into any internal, external or cross-sectional collaborative environment (Dubey & Gunasekaran, 2015; Sumukadas & Sawhney, 2010). Workforce agility offers more incredible benefits to the organization in terms of increased productivity, profits, market shares, speedy adaptation to change and competitive advantage over others in the market (Breu et al., 2001).

The disruption and economic crisis brought a flexible and adaptable workforce to organizations. Recent human resource management research states the importance of dealing with the dynamic and unpredictable environment by becoming more agile in their daily operations (Muduli, 2016; Muduli & Pandya, 2018; Nijssen & Paauwe, 2012; Sherehiy et al., 2007).

The term “workforce agility” is used to collect research articles for the literature review. After an initial check with the abstracts, 57 studies were found helpful for this study. We followed the most widely used (Tranfield, Denyer, & Smart, 2003) model, including three stages of planning, conducting and reporting. All the efforts aimed to fulfil our objectives to understand and discover the needs and drivers of workforce agility and organizational practices.

Need for an Agile Workforce

Workforce agility is the ability of the knowledge force to find an optimal way to react to the turbulence in the environment at the optimal time and look for opportunities in the challenges. It caters to the need of

the whole organization (which includes the different functional entities, practices and procedures, organizational culture and infrastructure). An agile workforce makes organizations adaptable and responsive to the competition, changing market and customer preferences, technological advancements and human resource insufficiencies.

The external and internal environment of the organizations can provide opportunities and threats; it depends on the organization's workforce to forecast and analyze the changes (Vázquez-Bustelo, Avella, & Fernández, 2007). The external drivers can be unpredictable and uncertain situations, fierce competition, changes in customer preferences, and advancements in technology, where the organizations need cross-trained agile workforce to react and adapt to changes and the capability to exploit opportunities and turn them into benefits for the firm (Patil & Suresh, 2019). For this, workers need to be multi-skilled and stay abreast of new conditions in an unpredictable environment (Qin & Nembhard, 2015) (Lyons, Biltz, & Whittall, 2017; Patil & Suresh, 2019). An efficient and agile knowledge force predicts market changes and keeps up with customer preferences, thus retaining existing customers and generating new market space (Chonko & Jones, 2005; Gren & Lenberg, 2019).

The internal environment needs an agile workforce to reconfigure work tasks and procedures, creative and prompt problem solving, manage work stress, and organizational flexibility. An agile enterprise exists only when the workforce has an excellent problem-solving ability, capacity to embrace new change and the willingness to accept challenges (Patil & Suresh, 2019). The predictive behaviour of the workforce about the market as well as the internal organizational process helps them develop multiple competencies and adapt quickly to new projects and tasks (Muduli, 2013, 2016; Patil & Suresh, 2019). The tolerance to thrive in stressful situations and the flexible workforce handle change and ambiguity within and outside the organization.

Drivers of Workforce Agility

The agile workforce is characterized by its ability to adapt to the ever-changing market needs and customer preferences. It shows the ability to forecast and predict the possibilities of future market trends, generate innovative ideas and accomplish goals with the optimal use of resources (Alavi & Wahab, 2017; Patil & Suresh, 2019; Vázquez-Bustelo et al., 2007). In the previous section, we have discussed the need for an agile workforce. This section deals with the personal characteristics which induce workforce agility.

Interpersonal adaptability: Interpersonal adaptability enhances the person to work quickly on multiple assignments or across different groups, engaging with teams and fostering a collaborative environment with a singular focus on task accomplishment (Griffin & Hesketh, 2005). Dynamic organizations rapidly develop new solutions and acquire marketplace agility through an adaptive workforce, grab most market shares, and get much profit (Dyer & Shafer, 1998; Shafer, Dyer, Kilty, Amos, & Erickson, 2001).

Professional flexibility: Rapid technological advancement, networks, and new manufacturing tools require flexible work to achieve agility. Reconfiguration of the various organizational process captures emerging opportunities by addressing unanticipated issues (Qin & Nembhard, 2015). A flexible workforce allows organizations to reframe and restructure various assignments and realign the vital force to critical customer problems (Patil & Suresh, 2019). (Sherehiy, 2008) have identified workforce flexibility as one of the essential characteristics of enterprise agility.

Proactivity & Quick responsiveness: Proactivity consists of five parts: (i) Prediction (ii) Prevent (iii) Plan (iv) Participate (v) Perform (Bindl & Parker, 2010). Thus, prompt responsiveness to changes from the plan or schedule due to unforeseen circumstances helps maintain output

products and services (Qin & Nembhard, 2015).

The mindset of the workforce: Many organizations promote agility by offering incentives to the employees and implementing agility through organizational policies, but in this process, they tend to overlook the most critical driver of an agile workforce, i.e., the mindset of the employees. Three types of mindsets are required: (i) Growth mindset identifies the potential and intelligence of oneself and others and sees the change in the environment as an attribute to grow, develop, and flourish. (ii) The open mindset opens oneself to the ideas of others and accepts collaboration. (iii) Promotion mindset keeps advancement and accomplishment in mind while dealing with change. (iv) The outward mindset observes others and utilizes all learning opportunities (Gottfredson, 2018, 2019).

Resiliency: With increased stress and the risk of burnout in today's organizations, resiliency is a quality attribute to cope with turbulence and take calculated risks. There are many ways in which resiliency in the workplace can cultivate, some of which are: the use of mindfulness practices, division and distribution of cognitive load, taking detachment breaks, practising mental agility, and fostering compassion (Fernandez, 2016; Trifoglio, 2018)

Self-motivation: It is a drive that pushes the employee forward towards the achievement of personal as well as organizational goals. The motivation can be from different parameters like rewards, recognition, supervisor support, teamwork, responsibility, and autonomy. The employees are motivated when they have the required skills to handle multiple responsibilities with confidence (Aloysius, 2012; Robescu & Iancu, 2016)

Collaboration & Openness to information: The agile workforce comprises employees open to collaboration with any

project team formations and data from any source; they analyze it and store it for future reference (Muduli, 2009, 2016, 2017)(Sherehiy et al., 2007).

As knowledge and skills, many authors identified intrapersonal attributes as critical features. The multi-skilled workforce that can adapt to changes determines the organization's success (Alavi & Wahab, 2017).

Organizational practices to promote Workforce Agility

The literature provides evidence that the organizations promoting workforce agility are proactive to change compared to other observatory and reactive organizations about the changing scenarios. Human resource professionals face challenges in implementing organizational practices in a dynamic environment. It becomes vital for the HR professionals to foster leadership that facilitates knowledge sharing, trust, the delegation of authority, teamwork and citizenship behaviour which in turn promotes agility in the workforce, thereby making the crew more compatible with changes (Alavi & Wahab, 2017; Heilmann, 2018; Sumukadas & Sawhney, 2010). There are two kinds of organizational practices that promote agility, one is strategy-based, and the other is growth-based. The strategy-based HRM practice is strictly related to the organization's business strategy (Alavi & Wahab, 2017). The growth-oriented practices are development based and focus on learning and building workforce competence.

Some of the organizational practices to promote workforce agility are:

Learning, training and developing a knowledge workforce: Organizations realize that constant improvement means a commitment to learning. Thus, training is provided to the employees to make them compatible and multi-skilled. Training and development centres prepare modules and materials and conduct employee training programs (Garvin, 2015).

Employee empowerment: Empowerment has four cognitions, meaning, competence, self-determination and impact. It generates

a sense of autonomy in the employee, who is an essential predictor of workforce agility (Sherehiy et al., 2007).

Rewards and compensation: Literature shows that non-traditional rewards such as skill-based pay and improvement incentives are more effective than traditional rewards like profit sharing and gain sharing. Non-monetary rewards are equally effective in promoting agility in the workforce (Modgil, 2018).

Organizational structure: With the changes in the market and the boom in information technology, the organizational structure has drastically changed. The tall structures are replaced by more flat structures, providing employees autonomy. Increased virtual workspaces and co-working spaces enable organizations to be more decentralized, which aids agility and flexibility.

Teamwork and collaboration: As the organizations operate in a dynamic environment, the organization's functional structure has given way to a more collaborative organization wherein, for a project, different departments or functional units collaborate and forms teams to work on the project (Dizari & Garoosi, 2015; Trehan, 2017). Agility is the collaboration between the organization's employees and between the organization and its stakeholders.

Future research directions

With the growing attention to research and development in digitalization, artificial intelligence (AI) and the Internet of Things (IoT), more research is required to find the enablers and management practices to promote workforce agility. The enablers, such as proactivity, innovation, resilience, self-motivation and collaboration, are identified, but further study is required to find the extent to which these enable agility in the workforce. Also, workforce agility as a management strategy to cope with rapid changes can be further studied in alternative work arrangements; the gig economy. Earlier, the employees used to have a psychological contract with a firm for a more extended period, but nowadays, they showcase psychological

contracts with the employer until they work for them; it can even be for a short period. So, the psychological contract of the agile workforce in the gig economy is emerging to conduct research. Innovation is the product of individual characteristics and results of management practices. Hence, further studying how the agile workforce or organizational practices designed to develop agility impact innovation can be studied. The overall structure of the organizations is changing; now is the age of flexibility and autonomy for the employees. With this comes specific problems of the psychological contract, information overload, security and self-management. The future requires a self-driven workforce. So, the impact of employees' personalities on participation, decision-making, competency development, and change management can be further studied.

Conclusion

Workforce agility is the ability of the employees to quickly and optimally react to the changes in the workplace and business environment. The agile workforce is proactive concerning the changes in the environments and problem solving; adaptive to the organizational structural and functional changes. With the boom of information technology and its utilization in every spear of work-life, it has become a requirement to have employees with IT knowledge. Cross-cultural organizations have boosted the need for multilingual employees and a workforce that can adapt to the multicultural organizational environment. This paper identified and discussed needs, drivers and organizational practices to promote workforce agility.

Conflicts of Interest:

The authors declare no conflict of interest.

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Human Resource Management Practices In Himachal Road Transport Corporation

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Abstract

Human resources is the “real wealth creators of the organization.” Human resource management comprises assessing and managing the total knowledge, skills, creative abilities, ethics, and talents of the workforce. Fruitful planning, excellent human resource management, business-friendly policies & procedures, and proactive government can bring sustainable success to an organization. Human resource management (HRM) practices include human resource planning, recruitment and selection, training and development, compensation and benefits, performance appraisal system, industrial relations, career planning & development, organizational culture, and commitment & job satisfaction. The present study proposes to evaluate HRM practices followed in the public sector transport undertaking of Himachal Pradesh, viz., Himachal Road Transport Corporation (HRTC). The study mainly focuses on examining the perceptions of HRTC employees and their satisfaction level towards HRM practices followed in HRTC. Sample consists of 120 respondents of Shimla district of Himachal Pradesh and the judgmental sampling method has been followed. The conclusion drawn from the study is that HRM practices have a major impact on satisfaction level of employees of HRTC.

Keywords: Human resource, Human resource management practices, Employees

Introduction

In the fast-changing global scenario, a major challenge of the economy is to adapt to the developing environment by adopting effective Human Resource Management (HRM) practices and applying sincere efforts to achieve the desired results. With the increase in size and complexity of business, the workforce has become the most important factor in any business endeavour. The current era is considered as the era of human resource with the workforce increasingly being recognized as the most important asset of an organisation. As the future is technology oriented, it is essential

to change accordingly. Human resource management should have a competitive edge and at the same time be flexible enough to adjust with the changing environment.¹

The effective performance of an organization is a direct result of the quality and competence of its human resources rather than just the availability of the best financial, material, and technological resources. The greater the competence of the workforce in resource utilization, the better the quality of outcome would be for the organization. Business entities are concentrating on the creation of goodwill, human resource development, job satisfaction,

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and employee welfare measures. Enterprises that have shifted their focus from tangibles to intangibles in HRM have progressed well.

Human resource is the “real wealth creator of the organization”. Multidimensional skills of the workforce should be developed and their hidden traits should be recognized and allowed to flourish. Human resource management is a formal system, which is designed to manage people in an organization. A person is a combination of knowledge, skills, values, and culture. To this, the potent combination of innovativeness, the ability to meet the task at hand, expertise, intuition, and the capacity to work towards a common goal should be added to create an ideal worker. Human capital is the property of an individual and it cannot be owned by any organization. But such entities can hope to shape such great potential for the common good. HRM alone can produce maximum output with minimum input; creative thinking, competence, and capability of human resources make the creation of new ideas and concepts possible. HRM comprises the management of the total knowledge, skills, creative abilities, ethics, talents, and aptitudes of an organization’s workforce. Combined with the values, attitudes, approaches and beliefs that add value to the business, effective HRM can contribute directly to the growth of an organization.

Fruitful planning, excellent human resource management, business-friendly policies &

procedures, and proactive government can bring sustainable success to an organisation. An organization based on the strong foundation of effective HRM practices can foster increasing mutual understanding among employees and enhance their morale and commitment. HRM practices such as training & development, fair means of selection & recruitment, better working conditions, fair wages & salary, and regular performance appraisals provide satisfaction to an employee, increase their productivity, and lead the organization to the path of progress and success. ²

As we know, road transport plays a significant role in the economic development of a nation. The Himachal Road Transport Corporation (HRTC) is the lifeline of the people of the hilly areas of the state. It provides quick, efficient, and adequate transport facilities to people throughout the state as well as to neighbouring states. HRTC has a large workforce that takes care of the daily tasks of the corporation. Human resource management practices followed in the organization have a major impact on the workforce, which is determined by level of its satisfaction. The researcher has considered important elements under which all HRM practices of HRTC are covered. They are human resource planning, recruitment & selection, training & development, compensation & benefits, performance appraisal system, industrial relations, career planning & development, organizational culture, and commitment & job satisfaction.



Review Of Literature

Many practitioners and eminent researchers have devoted considerable thought in related fields at national and international levels. Listed below is the literature that will provide a comprehensive view touching various facets of HRM practices.

Ybema et al. (2017)³ are of the opinion that the HR department generally focuses on strategic organizational goals such as getting the right people at the right moment in the right position. Sustainable employability of employees seems beneficial to an organization. It bolsters health, motivation, and skills of the employees, which in turn increases productivity, improves employability, and lowers sickness absences.

Islam et al. (2018)⁴ investigated the influence of HRM practices on employees' job satisfaction and observed that work/life balance practices, compensation & reward, training & development, and recruitment & selection have the highest degree of association and influence on job satisfaction.

Aher and Giri (2018)⁵ discovered that the need for manpower exists in every organization in order to perform various business activities. Thus the recruitment and selection of skilled, talented candidates is one of the most important processes of any organization. The right person in the right job at the right time that fits into the values of the company, has a positive impact on the growth and success of organization.

Mayakkannan (2018)⁶ acknowledges that a motivated and committed workforce can contribute to the productivity of an organization. The effective functioning of the Transport Corporation mainly depends on the efficiency of its personnel management practices. Effective personnel management practices including workforce planning, training & development, performance appraisal, welfare measures, ideal policies, and proper practices adopted for employees. For the success of the organization, focus is required on all these aspects that influence personnel management practices.

Singh (2018)⁷ focuses on the perception of the employees with regard to the recruitment &

selection programme. Restructuring of management and administration policies related to human resource development and adoption of modern HR practices can rectify the results of poor HR planning.

Hee et al. (2019)⁸ claim that human resource management practices influence employees' skills and their motivation level is enhanced through the organizational structure, which results in improved job performance. Employment security acts as an important factor that enhances the performance level of employees. Employment security and sufficient training raise the confidence level of employees. They feel more secure and confident with new knowledge and skills, which in turn enhance their job performance.

Ombanda and Obonyo (2019)⁹ discuss the ethical concerns in specific HR functions and the relationship between employee performance and ethics in HRM functions. Ethics in HRM plays an important role in improving organizational performance. Fair application and strong appreciation of ethical principles in HRM improve organizational performance.

Krishna Murthy (2019)¹⁰ asserts that implementing best HRM practices attracts skilled and talented human resources, which results in future growth of the organization.

Research Gap

After reviewing related literature, a critical examination regarding missing and unexplored aspects in previous research was conducted. There are several areas with regard to HRM in HRTC that need significant attention to improve the current situation. Keeping this fact in view, an attempt has been made to fill this gap by carrying out a study on the topic human resource management practices in Himachal Road Transport Corporation, which can help the organization to set up strategies, policies, and plans that provide job satisfaction to the employees and further lead to long-term growth and sustainable success of the organization.

Need of The Study

Human resources is the most treasured possession of any organization since it is the

true asset of the organization, which has a major role in successful functioning of an organization. Even in the present competitive and advanced technological environment, organizations would not exist without people. To achieve organizational goals, managements require to be aware of human resource needs, as only satisfied employees can lead an organization towards the path of success.

HRTC plays a major role in the development of the state of Himachal Pradesh. The corporation, with the aid of the government, provide quality services to the passengers of rural as well as urban areas. Eco-friendly measures have been adopted along with the latest technologies to help the corporation meet its organizational goals. To meet the challenges of development, it has become necessary to manage human resources properly so as to satisfy the needs of the staff for fruitful future growth of the corporation. As the Himachal Road Transport Corporation is the biggest public sector undertaking of the state and has a very large number of employees contributing to the organization, it becomes necessary to examine the current HRM practices of the HRTC. Many studies have been carried out encompassing various issues in HRTC, but hardly any specific study with regard to HRM practices in this public corporation has been done. Against this backdrop, an attempt has been made to study the HRM practices with special reference to HRTC.

Scope of Study

The present research has been carried out to examine the HRM practices of the Himachal Road Transport Corporation. The focus is on evaluating the human resource management practices that affect the performance of employees engaged in technical and non-technical work in the organization. A good HRM system with proper HRM policies and practices influences employee behaviour and attitude and enhances the performance of any organization. Every attempt has been made in this research to evaluate the existing HRM practices in HRTC and assess the perception level of employees of HRTC towards these practices. The study includes employees of Shimla district. It also

covers all the aspects that are related to job satisfaction of employees with respect to HRM practices of HRTC. The study covers accessible units, divisional offices, workshops, and head offices of HRTC.

Objectives of The Study:

- To examine the present status of Human Resource Management practices of HRTC and to assess the opinion of employees regarding remuneration & salary, training & development, recruitment & selection, management support, job security & safety, working conditions, career development, grievance redressal mechanism, and industrial relations.
- To suggest methods for improving the Human Resource Management practices of HRTC to increase the workers' efficiency and performance for sustainable growth and success of the organization.

Hypotheses

A hypothesis in statistics is a tentative statement about the population. Keeping in view the objectives of the study, the following hypotheses have been developed for testing.

1. Testing the level of significant difference in employees' perception on the basis of various demographic variables regarding Human Resource Management practices.
- H₀: There is no significant difference in employees' perception on various demographic variables regarding human resource management practices.
- H₁: There is significant difference in employees' perception on various demographic variables regarding human resource management practices.

Research Methodology

The researcher studied HRM practices of Himachal Road Transport Corporation of Shimla district. To conduct the study, data were collected from primary as well as secondary sources. The data collected from the sample employees of HRTC constitute the primary source and information gathered from journals,

magazine reports, newspapers, and research papers constitute the secondary source. Sample size consists of 120 employees and the judgmental sampling method was followed to accomplish the study. A structured questionnaire was used as the instrument for collecting the primary data. The questionnaire had 13 statements to which respondents marked their agreement on Likert's five-point scale in which the agreement was marked as follows: 5- Strongly Agree, 4- Agree, 3-Neutral, 2-Disagree, and 1- Strongly Disagree. Higher values indicated higher levels of agreement and lower values indicated weak level of agreement. Statistical methods such as arithmetic mean, standard deviation, & one way ANOVA test were applied. One way ANOVA was applied to ascertain if there existed any significant differences between the perceptions of employees of HRTC regarding HRM practices. Overall difference between the groups can be ascertained through ANOVA test, but it does

not examine the difference between any two groups. On the other hand, the post hoc test, which makes a pair-wise comparison between the two groups can determine the difference between any two groups.

Results and Discussion

After analysing and interpreting the data regarding perception of employees towards HRM practices in the organisation, the demographic profile of the sample employees was analysed as well shown in table 1. It was discovered that the majority of employees belonged to a high age group, i.e., above 45 years. As far as work experience of the employees of HRTC Shimla was concerned, the majority of employees were found to have work experience of below 10 years. As far as the nature of work was considered, majority of the staff works under office administration, i.e., 50 percent of employees were engaged in office administration.

Table 1

Demographic profile of the respondents along with the percentage

Number of respondents

AGE (YEARS)	BELOW 30	30-40	ABOVE 45	TOTAL
	33 (27.5)	38 (31.7)	49 (40.8)	120(100)
WORK EXPERIENCE(YEARS)	BELOW 10 YEARS	10-20 YEARS	20-30 YEARS	OVER 30 YEARS
	41 (34.2)	30 (25.0)	24 (20)	25(20.8)
NATURE OF WORK	OPERATION OF BUSES	MAINTENANCE OF BUSES	OFFICE ADMINISTRATION	TOTAL
	18 (15.0)	42 (35.0)	60 (50)	120(100)

Job security & safety is an important HRM practice that influences the behaviour and performance of the employees. It provides a positive feeling to the individuals and persons value their job highly. In the study it was found that there exists differences in the opinion of young age group employees and elder employees of the organization regarding job security and safety. The senior employees, who are the regular employees of the organization and enjoy other job benefits feel secure and

happy about their jobs, whereas a majority of young employees whose age lies between 30 and 45 feels insecure about the job as most of them are employed on contract basis in the organization and have few chances of regularization.

Poor working conditions are a source of job dissatisfaction as are conflict & pressure as well as lack of career & development training in an organization. The study found that a majority of employees in the sample from HRTC have

work experience below 10 years and these employees are highly satisfied with the working conditions, levels of conflict & pressure, and provision of career & development opportunities. But in the case of employees having work experience between 10 and 20 years, they are dissatisfied with working conditions, levels of conflict & pressure, and existing career & development practices. Further, the study reveals that employees having work experience between 20 and 30 years are very satisfied with recruitment & selection as well as promotion & transfer policy of their organization as compared to the employees having experience of above 30 years. The study shows that the employees having 20–30 years of work experience are most satisfied with the fairness of work practice, whereas the employees having work experience of between 10 and 20 years are dissatisfied with the fairness of work practice of their organization.

Considering the nature of work, it was found that a majority of the staff is engaged with office administration and they are satisfied with recruitment & selection, rules & regulations, promotion & transfer policies, remuneration & salary, working conditions, conflict & pressure,

events & celebration, and career & development practices followed in their department as compared to the employees engaged in maintenance of buses. Thus, it is clear from the study that employees engaged in maintenance of buses are not satisfied with most of the HRM practices of their organization. Regarding fairness of work, training & development, and grievance redressal mechanism practices of the organization, the staff engaged in operation of buses are highly satisfied as compared to the staff engaged in maintenance of the buses. Regarding the participation and communication process that prevails in the organization, the employees who are engaged in office administration were found to be highly satisfied. This seems to be due to the fact that office administration staff gets more chance to interact with their superiors, leaving the staff engaged in operation of the buses dissatisfied with the level of the practice. The study revealed that in the Himachal Road Transport Corporation, the employees engaged in the operation of buses (drivers and conductors) and maintenance of buses (mechanics) are dissatisfied with most of the HRM practices of the organization and this dissatisfaction is likely to have an adverse effect on the growth of the organization.

Table 2

Table 2a: Descriptive statistical analysis for recruitment & selection on basis of nature of work

Nature of Work	N	Mean	Std. Deviation	Std. Error
Operation of buses	18	9.6667	2.67889	0.63142
Maintenance of buses	42	8.3571	2.91189	0.44931
Office administration	60	11.4667	2.3968	0.30943
Total	120	10.1083	2.97269	0.27137

Source: Data collected through questionnaire.

Table 2(b): ANOVA result for recruitment & selection

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	243.015	2	121.508	17.582	.000
Within Groups	808.576	117	6.911		
Total	1051.592	119			

Table 2(c): Post hoc results for recruitment & selection

Nature of work		Mean Difference	Std. Error	Sig.
Operation of buses	Maintenance of buses	1.30952	.74060	.185
	Office administration	-1.80000*	.70649	.032
Maintenance of buses	Operation of buses	-1.30952	.74060	.185
	Office administration	-3.10952*	.52889	.000
Office administration	Operation of buses	1.80000*	.70649	.032
	Maintenance of buses	3.10952*	.52889	.000

*The mean difference is significant at the 0.05 level.

The perception of the employees regarding HRM practice recruitment & selection was rated by asking 3 questions and using the five point Likert scale to determine the minimum and maximum scores regarding recruitment & selection. Thus, 3 is the minimum score and 15 is the maximum score for this variable. Table 2(a) shows mean score 11.4667, which is highest for office administration & 8.3571, which is lowest in the case of maintenance of buses. In Table 2(b), the value of f-test is less than 0.05, which means significant difference exists in the opinion of employees. Table 2(c) posthoc test reveals that significant difference is found between employees in office administration and those in operation & maintenance of the buses.

Table 3

Table 3(a): Descriptive statistical analysis for rules & regulations on basis of nature of work

Nature of work	N	Mean	Std. Deviation	Std. Error
Operation of buses	18	14.5000	4.32843	1.02022
Maintenance of buses	42	10.9286	3.39579	.52398
Office administration	60	15.2333	2.72693	.35205
Total	120	13.6167	3.78450	.34548

Source: Data collected through questionnaire

Table 3(b): ANOVA result for rules & regulations

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	474.348	2	237.174	22.560	.000
Within Groups	1230.019	117	10.513		
Total	1704.367	119			

Table 3(c): Post hoc results for rules & regulations

Nature of work		Mean Difference	Std. Error	Sig.
Operation of buses	Maintenance of buses	3.57143*	.91344	.000
	Office administration	-.73333	.87136	.678
Maintenance of buses	Operation of buses	-3.57143*	.91344	.000
	Office administration	-4.30476*	.65232	.000
Office administration	Operation of buses	.73333	.87136	.678
	Maintenance of buses	4.30476*	.65232	.000

*The mean difference is significant at 0.05 level.

The perception regarding rules & regulations was rated by asking 4 questions and using the five point Likert scale to determine the minimum and maximum scores. Thus, 4 is the minimum score while maximum score is 20 for this variable. Table 3(a) shows maximum mean score 15.2333, for office administration and the lowest score 10.9286 for maintenance of buses. In table 3(b), the value of f-test is less than 0.05, which means significant difference has been found in the opinion of employees. Table 3(c) post hoc test reveals that there is significant difference between the perception of office administration and operation and maintenance of the buses with regard to rules & regulations.

Table-4

Table 4(a): Descriptive statistical analysis for promotion & transfer policy on basis of nature of work

Nature of work	N	Mean	Std. Deviation	Std. Error
Maintenance of buses	42	12.3333	2.83417	.43732
Office administration	60	16.2833	3.10326	.40063
Total	120	14.5000	3.60672	.32925

Source: Data collected through questionnaire.

Table 4(b): ANOVA result for promotion & transfer policy

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	402.206	2	201.103	20.535	.000
Within Groups	1145.794	117	9.793		
Total	1548.000	119			

Table 4(c): Post hoc results for promotion & transfer policy

Nature of work		Mean Difference	Std. Error	Sig.
Operation of buses	Maintenance of buses	1.27778	.88161	.319
	Office administration	-2.67222*	.84100	.005
Maintenance of buses	Operation of buses	-1.27778	.88161	.319
	Office administration	-3.95000*	.62959	.000
Office administration	Operation of buses	2.67222*	.84100	.005
	Maintenance of buses	3.95000*	.62959	.000

*The mean difference is significant level at 0.05 level.

The perception regarding promotion & transfer policy was rated by asking 5 questions and using the five point Likert scale to determine the minimum and maximum scores. Thus, 5 is the minimum score and maximum score is 25 for this variable. Table 4(a) shows a mean score 16.2833, which is maximum, for office administration and 12.3333, which is minimum, in the case of maintenance of buses. In table 4(b) the value of f-test is less than 0.05, which means that significant difference has been found in the opinion of employees. Table 4(c) post hoc test reveals that there is significant difference in the opinion of employees engaged in office administration regarding promotion & transfer policy from the opinion of those in operation and maintenance of the buses.

Table-5

Table 5(a): Descriptive statistical analysis fairness of work on basis of nature of work

Nature of work	N	Mean	Std. Deviation	Std. Error
Operation of buses	18	11.2778	3.04487	.71768
Maintenance of buses	42	9.6905	2.74518	.42359
Office administration	60	10.3500	2.32762	.30049
Total	120	10.2583	2.62341	.23948

Source: Data collected through questionnaire.

Table 5(b): ANOVA result on the basis of fairness of work

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	32.754	2	16.377	2.437	.092
Within Groups	786.237	117	6.720		
Total	818.992	119			

Table 5(c): Post hoc results for fairness of work

Nature of work		Mean Difference	Std. Error	Sig.
Operation of buses	Maintenance of buses	1.58730	.73030	.080
	Office administration	.92778	.69666	.381
Maintenance of buses	Operation of buses	-1.58730	.73030	.080
	Office administration	-.65952	.52154	.418
Office administration	Operation of buses	-.92778	.69666	.381
	Maintenance of buses	.65952	.52154	.418

*The mean difference is Significant at the 0.05 level.

The employee perception on fairness of work was rated by asking 3 questions and using the five point Likert scale to determine the minimum and maximum scores. Thus,3 is the minimum score,while the maximum score is 15 for this variable. Table 5(a) shows a maximum mean score of 11.2778 for staff engaged in operation of buses and a minimum score of 9.6905 in the case of maintenance of buses. In table5(b), the value of f-test is more than 0.05, which means there is no significant difference found in the opinion of employees. Table 5(c) post hoc test reveals insignificant difference, which means that the employees have similar views regarding fairness of work.

Table 6

Table 6(a): Descriptive statistical analysis participation & communication on basis of nature of work

Nature of work	N	Mean	Std. Deviation	Std. Error
Operation of buses	18	11.3333	3.39550	.80033
Maintenance of buses	42	11.8571	3.10445	.47903
Office administration	60	13.1667	2.62431	.33880
Total	120	12.4333	2.99224	.27315

Source: Data collected through questionnaire.

Table 6(b): ANOVA result on participation & communication

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	67.990	2	33.995	3.988	.021
Within Groups	997.476	117	8.525		
Total	1065.467	119			

Table 6(c): Post hoc result on participation & communication

Nature of work		Mean Difference	Std. Error	Sig.
Operation of buses	Maintenance of buses	-.52381	.82257	.800
	Office administration	-1.83333	.78468	.055
Maintenance of buses	Operation of buses	.52381	.82257	.800
	Office administration	-1.30952	.58743	.070
Office administration	Operation of buses	1.83333	.78468	.055
	Maintenance of buses	1.30952	.58743	.070

*The mean difference is significant at the 0.05 level.

The perception regarding participation & communication was rated by asking 4 questions and using the five point Likert scale to determine the minimum and maximum scores. Thus 4 is the minimum score and the maximum score is 20 for this variable. Table 6(a) shows a maximum mean score 13.1667 for staff engaged in office administration and a minimum score of 11.3333 in the case of operation of buses. In table 6(b), the value of f-test is less than 0.05, which means that there exists significant difference in the opinion of employees. Table 6(c) portrays the post hoc result regarding participation & communication and reveals that there is significant difference between the opinion of staff engaged in operation of buses with both maintenance of buses and office administration, as well as between maintenance of buses and office administration.

Table 7

Table 7 (a): Descriptive statistical analysis for remuneration & salary on basis of nature of work

Nature of work	N	Mean	Std. Deviation	Std. Error
Operation of buses	18	10.1667	2.00734	.47313
Maintenance of buses	42	9.6667	3.48982	.53849
Office administration	60	10.5500	3.50991	.45313
Total	120	10.1833	3.32291	.30334

Source: Data collected through questionnaire.

Table 7(b) : ANOVA result for remuneration & salary

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	19.283	2	9.642	.871	.421
Within Groups	1294.683	117	11.066		
Total	1313.967	119			

Table 7(c): Post hoc result on remuneration & salary

Nature of work		Mean Difference	Std. Error	Sig.
Operation of buses	Maintenance of buses	.50000	.93714	.855
	Office administration	-.38333	.89397	.904
Maintenance of buses	Operation of buses	-.50000	.93714	.855
	Office administration	-.88333	.66925	.387
Office administration	Operation of buses	.38333	.89397	.904
	Maintenance of buses	.88333	.66925	.387

*The mean difference is significant at the 0.05 level.

The perception regarding remuneration & salary was rated by asking 4 questions and using the five point Likert scale to determine the minimum and maximum scores. Thus 4 is the minimum score, whereas the maximum score is 20 for this variable. Table 7(a) shows the mean score 10.5500, which is maximum, for staff engaged in office administration and 9.6667, which is minimum, in the case of maintenance of buses. In table 7(b), the value of f-test is more than 0.05, which means that there is no significant difference found in the opinion of employees. Table 7(c) reveals insignificant difference in the opinions among the employees of the organization in the matter of remuneration & salary.

Table-8

Table 8(a): Descriptive statistical analysis on training & development on basis of nature of work

Nature of work	N	Mean	Std. Deviation	Std. Error
Operation of buses	18	18.2222	3.85861	.90948
Maintenance of buses	42	16.2619	3.17044	.48921
Office administration	60	17.9000	3.00677	.38817
Total	120	17.3750	3.27984	.29941

Source: Data collected through questionnaire

Table 8(b): ANOVA result on training & development

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	81.495	2	40.747	3.977	.021
Within Groups	1198.630	117	10.245		
Total	1280.125	119			

Table 8(c): Post hoc result on training & development

Nature of work		Mean Difference	Std. Error	Sig.
Operation of buses	Maintenance of buses	1.96032	.90170	.080
	Office administration	.32222	.86017	.926
Maintenance of buses	Operation of buses	-1.96032	.90170	.080
	Office administration	-1.63810*	.64395	.033
Office administration	Operation of buses	-.32222	.86017	.926
	Maintenance of buses	1.63810*	.64395	.033

*The mean difference is significant at 0.05 level.

The employee perception on training & development was rated by asking 5 questions and using the five point Likert scale to determine the minimum and maximum scores. Thus 5 is the minimum score and maximum score is 25 for this variable. Table 8(a) shows a mean score of 18.2222, which is maximum, for staff engaged in operation of buses and a mean score of 16.2619, which is minimum, in the case of maintenance of buses. In table8(b), the value of f-test is less than 0.05, which means that there exists significant difference in the opinion of employees. Table 8(c) post hoc test reveals that significant difference is found between employees in the maintenance of buses with those in office administration.

Table-9

Table 9(a): Descriptive statistical analysis on grievance redressal mechanism on basis of nature of work

Nature of work	N	Mean	Std. Deviation	Std. Error
Operation of buses	18	17.9444	3.05772	.72071
Maintenance of buses	42	15.7143	4.12184	.63601
Office administration	60	16.5000	3.59142	.46365
Total	120	16.4417	3.75689	.34296

Source: Data collected through questionnaire

Table 9(b): ANOVA result on grievance redressal mechanism

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	63.076	2	31.538	2.283	.107
Within Groups	1616.516	117	13.816		
Total	1679.592	119			

Table 9(c): Post hoc result on grievance redressal mechanism

Nature of work		Mean Difference	Std. Error	Sig.
Operation of buses	Maintenance of buses	2.23016	1.04716	.088
	Office administration	1.44444	.99892	.321
Maintenance of buses	Operation of buses	-2.23016	1.04716	.088
	Office administration	-.78571	.74782	.547
Office administration	Operation of buses	-1.44444	.99892	.321
	Maintenance of buses	.78571	.74782	.547

*The mean difference is significant at the 0.05 level.

The perception regarding grievance redressal mechanism was rated by asking 5 questions and using the five point Likert scale to determine the minimum and maximum scores. Thus 5 is the minimum score and maximum score is 25 for this variable. Table 9(a) shows a mean score 17.9444, which is maximum, for staff engaged in operation of buses, while it shows a score of 15.7143, which is minimum, in the case of maintenance of buses. In table9(b), the value of f-test is more than 0.05, which means that there exists only insignificant difference in the opinion of employees. Table 9(c) post hoc test reveals that employees have similar views regarding the grievance redressal mechanism of HRTC.

Table-10

Table 10(a): Descriptive statistical analysis on working conditions on basis of nature of work

	N	Mean	Std. Deviation	Std. Error
Operation of buses	18	15.7778	3.94902	.93079
Maintenance of buses	42	14.7143	3.69103	.56954
Office administration	60	16.6000	2.87125	.37068
Total	120	15.8167	3.42748	.31288

Source: Data collected through questionnaire

Table 10(b): ANOVA tests results on working conditions

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	87.884	2	43.942	3.924	.022
Within Groups	1310.083	117	11.197		
Total	1397.967	119			

Table -10(c): Post hoc results for working conditions

Nature of work		Mean Difference	Std. Error	Sig.
Operation of buses	Maintenance of buses	1.06349	.94269	.499
	Office administration	-.82222	.89927	.632
Maintenance of buses	Operation of buses	-1.06349	.94269	.499
	Office administration	-1.88571*	.67322	.016
Office administration	Operation of buses	.82222	.89927	.632
	Maintenance of buses	1.88571*	.67322	.016

*The mean difference is significant at the 0.05 level.

The perception regarding working conditions was rated by asking 5 questions and using the five point Likert scale to determine the minimum and maximum scores. Thus 5 is the minimum score, while maximum score is 25 for this variable. Table 10(a) shows a maximum mean score of 16.6000 for staff engaged in office administration while it records a minimum score of 14.7143 in the case of staff engaged in maintenance of buses. In table 10(b), the value of f-test is less than 0.05, which reveals that there is significant difference in the opinion of employees. Table 10(c) test shows that difference exists in the opinion of employees engaged in maintenance of buses with those in office administration.

Table-11

Table 11(a): Descriptive statistical analysis on job security & safety on basis of nature of work

Nature of work	N	Mean	Std. Deviation	Std. Error
Operation of buses	18	11.6667	4.18681	.98684
Maintenance of buses	42	11.9286	4.02670	.62133
Office administration	60	10.9333	3.20945	.41434
Total	120	11.3917	3.66289	.33437

Table 11(b): ANOVA test results on job security & safety

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	26.073	2	13.036	.971	.382
Within Groups	1570.519	117	13.423		
Total	1596.592	119			

Table 11(c): Post hoc test result on job security & safety

Nature of work	Nature of work	Mean Difference	Std. Error	Sig.
Operation of buses	Maintenance of buses	-.26190	1.03215	.965
	Office administration	.73333	.98461	.737
Maintenance of buses	Operation of buses	.26190	1.03215	.965
	Office administration	.99524	.73710	.371
Office administration	Operation of buses	-.73333	.98461	.737
	Maintenance of buses	-.99524	.73710	.371

*The mean difference is significant at the 0.05 level.

The job security & safety perception was rated by asking 4 questions and using the five point Likert scale to determine the minimum and maximum scores. Thus 4 is the minimum score and maximum score is 20 for this variable. Table 11(a) shows a mean score of 11.9286, which is maximum, for staff engaged in maintenance of buses and 10.9333, which is minimum, in the case of office administration. In table 11(b), the value of f-test is more than 0.05, which means that there exists no significant difference in the opinion of employees. Table 11(c) test reveals that employees possess similar views regarding job security & safety in the organization.

Table-12

Table 12(a): Descriptive statistical analysis on conflict & pressure on basis of nature of work

	N	Mean	Std. Deviation	Std. Error
Operation of buses	18	18.9444	3.73335	.87996
Maintenance of buses	42	18.8810	5.52247	.85214
Office administration	60	20.6500	3.45835	.44647
Total	120	19.7750	4.38190	.40001

Source: Data collected through questionnaire.

Table 12(b): ANOVA test result on conflict & pressure

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	91.926	2	45.963	2.452	.091
Within Groups	2192.999	117	18.744		
Total	2284.925	119			

Table 12(c): Post hoc test on conflict & pressure

Nature of work	Mean Difference	Std. Error	Sig.	
Operation of buses	Maintenance of buses	.06349	1.21967	.999
	Office administration	-1.70556	1.16349	.311
Maintenance of buses	Operation of buses	-.06349	1.21967	.999
	Office administration	-1.76905	.87102	.109
Office administration	Operation of buses	1.70556	1.16349	.311
	Maintenance of buses	1.76905	.87102	.109

*The mean difference is significant at 0.05 level.

The perception regarding conflict & pressure was rated by asking 6 questions and using the five point Likert scale to determine the minimum and maximum scores. Thus 6 is the minimum score and maximum score is 30 for this variable. Table 12(a) shows a mean score of 20.6500, which is maximum, for staff engaged in office administration and a score of 18.8810, which is minimum, in the case of maintenance of buses. In table 12 (b), the value of f-test is more than 0.05, which means that there exists only insignificant difference in the opinion of employees. Table 12(c) post hoc test also reveals that employees have similar views regarding conflict & pressure in the HRTC.

Table-13

Table 13(a): Descriptive statistical analysis on events & celebration on basis of nature of work

Nature of Work	N	Mean	Std. Deviation	Std. Error
Operation of buses	18	10.2222	2.10198	.49544
Maintenance of buses	42	9.2381	1.60502	.24766
Office administration	60	10.3000	2.09357	.27028
Total	120	9.9167	1.98559	.18126

Source: Data collected through questionnaire

Table 13(b): ANOVA result regarding events & celebration

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	29.837	2	14.918	3.973	.021
Within Groups	439.330	117	3.755		
Total	469.167	119			

Table 13(c): Post hoc result regarding events & celebration

Nature of work	Mean Difference	Std. Error	Sig.	
Operation of buses	Maintenance of buses	.98413	.54591	.173
	Office administration	-.07778	.52076	.988
Maintenance of buses	Operation of buses	-.98413	.54591	.173
	Office administration	-1.06190*	.38985	.020
Office administration	Operation of buses	.07778	.52076	.988
	Maintenance of buses	1.06190*	.38985	.020

*The mean difference is significant at 0.05.

The HRTC employee perception on events & celebration was rated by asking 3 questions and using the five point Likert scale to determine the minimum and maximum scores. Thus 3 is the minimum score and maximum score is 15 for this variable. Table 13(a) shows a mean score 10.3000, which is maximum, for staff engaged in office administration while a minimum score of 9.2381 is assigned to maintenance of buses. In table 13(b), the value of f-test is less than 0.05 which means there exists significant difference in the opinion of employees. Table 13(c) reveals that difference exists in the opinion of employees engaged in maintenance of buses with those engaged in office administration as compared to other employees of organization.

Table-14

Table 14(a): Descriptive statistical analysis on career & development on basis of nature of work

Nature of work	N	Mean	Std. Deviation	Std. Error
Operation of buses	18	8.5000	1.91741	.45194
Maintenance of buses	42	8.2143	2.70983	.41814
Office administration	60	9.5667	2.63848	.34063
Total	120	8.9333	2.63057	.24014

Source: Data collected through questionnaire

Table 14(b) ANOVA result on career & development

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups(Combined)	49.162	2	24.581	3.714	.027
Within Groups	774.305	117	6.618		
Total	823.467	119			

Table 14(c): Post hoc result on career & development

Nature of work		Mean Difference	Std. Error	Sig.
Operation of buses	Maintenance of buses	.28571	.72473	.918
	Office administration	-1.06667	.69135	.275
Maintenance of buses	Operation of buses	-.28571	.72473	.918
	Office administration	-1.35238*	.51756	.027
Office administration	Operation of buses	1.06667	.69135	.275
	Maintenance of buses	1.35238*	.51756	.027

*The mean difference is significant at 0.05.

The perception regarding career & development was rated by asking 3 questions and using the five point Likert scale to determine the minimum and maximum scores. Thus 3 is the minimum score, whereas the maximum score is 15 for this variable. Table 14(a) shows a maximum mean score 9.5667 for staff engaged in office administration while the employees engaged in maintenance of buses received a minimum mean score of 8.2143. In table 14(b), the value of f-test

is less than 0.05, which means that there exists significant difference in the opinion of employees. Table 14(c) reveals that difference exists in the opinion of employees engaged in maintenance of buses with those in office administration as compared to other employees of organization regarding career and development.

Thus it can be concluded from this study that the Himachal Road Transport Corporation

should realize the perceptions of the employees regarding existing human resource management measures and should become more aware of the importance of human resource to the organization. The current HRM practices need to be modified and improved in order to ensure maximum satisfaction for the workforce regarding their work situation. Attention must be paid to nurturing the real wealth of the organization with the implementation of effective HRM practices for the fruitful growth and success of the organization.

- With the adaptation to changing technological environment and to retain the best talent, efforts need to be made by the management to improve human resource related issues and find ways in which such activities can be executed with maximum efficacy.
- Management must try their best to provide maximum social as well as psychological satisfaction to their employees. There is a dire need to carry out revival measures related to the human resource management practices in the organization with necessary changes in outlook.
- Transparency, ethical principles, and good governance lead to maximizing the profitability of the organization legally, ethically, and on a sustainable basis, while also ensuring trust, integrity, openness, performance orientation, responsibility, equity, transparency, mutual respect, and commitment to the organization. Following the same enhances the performance of employees by creating an environment that motivates the employees to maximize their performance level, enhance operational efficiency, and ensure long-term profitability and growth.

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Accrual Based Double Entry Accounting - A Revamp in the Financial Administration of Urban Local Bodies

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Abstract

The Cash Based Single Entry System of Accounting (CBSESA) was used by Urban Local Bodies (ULBs),

since their inception for the purpose of financial recording and reporting. Because of the system's inherent limitations, ULBs have failed to fulfil financial responsibility, transparency requirements, tapping new avenues of finance and efficient financial administration. The 11th National Finance Commission has made its apprehension on the accounting system followed in Local Self Governments (LSGs) and strongly recommended for a change in the accounting system as a good governance initiative. Time has proven that accrual-based double entry system of accounting is the most scientific method for financial recording and reporting, and the same has been in practice in commercial entities since 15th century. Unfortunately, the so-called scientific system could not be brought about in Government accounting or LSG accounting till the end of 20th century. As the first leap the Government of India suggested to adopt Accrual Based Double Entry System of Accounting (ABDESA) in ULBs in 2004. The state of Kerala adopted Municipal Accounts Manual and ABDESA in selected ULBs from 1st April 2007 (G.O. MS/8/2007/LSGD). Since, accounting information is largely used by stake holders for different purposes including financial administration and decisions, quality of such decisions (based on the published financial statements) rests largely on the shoulder of quality of information. The present paper is a detailed analysis of the quality of financial statements generated under ABDESA by the ULBs of Kerala, based on the primary data collected from five Municipal Corporations and 40 Municipalities.

Background

The Government of India (GoI) has initiated the 73rd and 74th amendments to the Indian Constitution, (Kerala Panchayat Guide) which made a remarkable change in local governance through decentralisation, in a concerted attempt to accomplish the long-cherished ambition of the Father of our Nation. In response to this, the Kerala Government (GoK) adopted two pieces of law in 1994, namely, Kerala

Municipality Act and Kerala Panchayat Raj Act. To support the development and welfare initiatives of the decentralised LSGs, the State made large budget allocations as well as the necessary power for its implementation. Following that, the amount of money to be managed and the challenges that come with the LSGs are multiplied many times. This has necessitated for a better and efficient financial administration.

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Accountability Concern

The Cash Based Single Entry System of Accounting was followed by Urban Local Bodies since its formation. This system had its inherent limitations in depicting the true financial result and financial position (CAG). This is mainly because of its incompleteness in recording accounting data as well as reporting based on the actual receipts and payments. Under the cash basis, the financial statements prepared by the ULBs do not provide a clear picture of the institutions' financial health, nor do they provide an effective reporting system to support financial planning and decision-making. The traditional accounting techniques used by ULBs proved inadequate in providing financial information to a variety of parties especially to decision makers. This necessitated the implementation of a comprehensive accounting system, potentially capable of overcoming the inherent limitations of the existing accounting practice (KILA).

Role of Accounting

Efficient mobilization of fund, its effective utilization, realistic budgeting, and systematic accounting are recognized as four pillars of modern financial management. The role of scientific accounting in financial administration is to provide timely, relevant, reliable, and complete financial information. Accounting is meant for keeping a systematic record of financial transactions whether of a public authority or of a private concern or an individual (Sharma M.P. 1962). Systematic accounting not only prevents omission and forgetfulness of demands but also avoids duplication of payments with the help of data provided by it (GoI, 1962). The system of accounting so adopted should be capable of providing complete, accurate and timely information highlighting the financial health of the institution concerned. The necessity to change the accounting system of LSGs arose from various sources, including the Controller & Auditor General (C&AG), 11th National Finance Commission, and the Supreme Court of India (Almitra H. Patel V. Union of India) due to the inherent limitations of the previous CBSESA.

Initiatives of Switchover

In this context, the Department of Expenditure of the Ministry of Finance, GoI, has entrusted the C&AG to prescribe formats for the preparation of the budget and keeping accounts of all ULBs in India. The C&AG had set up a Task Force in February 2002 to conduct study and report in this regard. The Task Force submitted its final report in December 2002, recommending that Municipalities must go for Accrual Based Double Entry System of Accounting system. As a result, the National Municipal Accounts Manual (NMAM) was developed and released in December 2004. In tune with NMAM, Kerala Municipal Accounts Manual (KMAM) was drafted for ULBs in 2007. The GoK developed an accounting software in technical consultation with Ferguson and Company for implementing ABDESA in computerized mode in ULBs. This was piloted in all the five Municipal Corporations and 3 Municipalities with effect from 1st April 2007. But the software was not comprehensive and faced difficulty to integrate with other software in practice for tax administration, planning, budgeting, and other public services. The Information Kerala Mission (IKM) has taken on the responsibility of developing alternative accounting software for ULBs in the face of ongoing technological challenges. SAANKHYA, an accounting software developed in 2008, was piloted in Kozhikode Corporation and Kannur Municipality. After this was completed successfully, the GoK made the following decision: the SAANKHYA will be introduced to all Municipalities on April 1, 2010.

Problem Statement

The Technical Committee for the introduction of ABDESA and State Audit Department were raised certain apprehensions on the working of the system and defects in the financial statements generated from ABDESA. In this context it would be meaningful to see; How does the new system of accounting work? Whether the financial reports generated in new system satisfy the required quality? and What has the current system of accrual-based accounting contributed when compared to the

previous cash-based single entry accounting? Keeping this in view the paper addresses two specific objectives

Objectives of The Study

1. To examine the quality of financial reporting in ABDESA from the Stakeholders perspective, 2. To compare the accounting practices and financial reporting under CBSESA and ABDESA in ULBs of Kerala

Methodology

The study is both descriptive and analytical in nature. The sample for the study comprises of 45 ULBs in Kerala i.e., five Municipal Corporations and 40 Municipalities selected by adopting simple random sampling. Sample respondents being 157, constituting- Accounting Staff 88, Secretaires 45 and State

Auditors 24.

Results and Discussion

The annual financial statements of ULBs under ABDESA comprise of Balance Sheet, Income and Expenditure Statement, Statement of Cash Flows, Receipts and Payments Statement, Notes to Accounts and Financial Performance Indicators (CAG). The quality of financial statements is assessed in terms of accuracy, reliability, completeness, objectivity, promptness, relevance, briefness, under standability, and comparability. The quality assessment would be included only if it is made out of the insight of: 1. Accounting Staff- who works to generate financial statements, 2. Secretary of ULBs- the largest user of financial statements as financial administrator, 3. State Audit Officers- those who verify the accuracy and authenticity of books and accounts.

Table 1
Job Category and Quality of Financial Statements

Component	Job Category	N	AM	SD	t	df	p
Quality of Financial Statements	Accounting Clerks	45	3.34	0.31	2.48	86	0.015*
	Accounting Assistants	43	3.48	0.21			

*Significant at 5per cent (p<0.05)

N: Frequency, AM: Arithmetic Mean, SD: Standard Deviation

As per Table 1 the collected data shows a better and consistent opinion from operating staff as revealed by Arithmetic Mean more than the average in the 5-point scale and lower Standard Deviation as regards the quality of financial statements. In ULBs there are two groups of Accounting Staff, one is Accounting Clerks and the other is a supporting team [specially trained M. Com graduates working in a project for capacity building among Municipal Staff named Capacity Building for Urban Local Bodies (CBULB)] hereafter known as Accounting Assistants. There exists significant difference between the opinion of Accounting Clerks and Accounting Assistants as regards the quality of financial statements from ABDESA (t=2.48, p<0.05). The Accounting Assistants have better opinion (AM=3.48, SD=0.21) compared to Accounting Clerks (AM=3.34, SD=0.31) about the quality of financial statements. Being well trained and specialists in Double Entry and SAANKHYA they are the better choice for commenting on the quality of financial statements generated under ABDESA. The null hypothesis is rejected at 5 per cent level of significance.

Table 2
Type of ULB and Quality of Financial Statements

Component	Type of ULB	N	AM	SD	t	df	p
Quality of Financial Statements	Municipal	7	3.13	0.60	3.00	86	0.004*
	Corporation						
	Municipality	81	3.44	0.22			

Source: Primary data

*: Significant at 5per cent level (p<0.05)

N: Frequency, AM: Arithmetic Mean, SD: Standard Deviation

From Table 2, it is inferred that the quality of financial statements of Municipalities is found to be better (AM=3.44, SD=0.22) than the of Municipal Corporations (AM=3.13, SD=0.60). The observation is substantiated by the statistical t test that there exists significant difference between the opinion of Accounting Staffs of Municipal Corporations and Municipalities (t=3.00, p<0.05) on the quality of financial statements. Being a new initiative, size of the entity and volume benefit of transactions may have added further to the quality of financial statements of Municipalities as compared to large Municipal Corporations. Here the null hypothesis is rejected at 5 per cent level of significance.

Table 3
Knowledge in Double Entry and Quality of Financial Statements

Components	Knowledge in	N	AM	SD	t	df	p
Quality of Financial Statements	SAANKHYA Good	42	3.48	0.22	2.40	86	0.018*
	Average	46	3.35	0.30			

Source: Primary data

*: Significant at 5per cent level (p<0.05)

N: Frequency, AM: Arithmetic Mean, SD: Standard Deviation

From Table 3, it is found that there exists significant difference between the opinion of Accounting Staff based on their level of knowledge in the accounting software, SAANKHYA regarding the quality of financial statements under ABDESA (t=2.40, p<0.05). Accounting Staff with good level of knowledge in SAANKHYA reported better opinion about the quality of financial statements under ABDESA (AM=3.48, SD=0.22) compared to Accounting Staff with average level of knowledge in SAANKHYA (AM=3.35, SD=0.30). Thus, it is explored that the null hypothesis is rejected at 5 per cent level of significance. It signifies that whose competency in the accounting software is good, hold high esteem about the quality of output. It indicates that the quality of financial statement also rests upon the mastery of the operating staff in their respective area of work. This calls for permanent accounting staff with specialisation in double entry accounting and well trained in SAANKHYA software for ensuring quality in recording and reporting.

Table 4

Quality of Financial Statements-Auditors' View

AM	SD	LCL	UCL	Moderate	High
3.12	0.37	2.96	3.27	20(83.3%)	4(16.7%)

Source: Primary Data AM: Arithmetic Mean, SD: Standard Deviation, LCL: Lower Confidence Limit, UCL:

From the point of view of State Audit Officers, who verify the authenticity, errors, omissions, completeness and lawfulness of books, accounts and annual financial statements as found in Table 4 that their overall perception on the quality of financial statements is only moderate (Mean=3.12, SD=0.37, LCL=2.96 and UCL=3.27). Majority of the respondents (83 per cent) of the opinion that the quality of Financial Statements is only moderate, while the rest expressed high opinion. It agrees with the assessment of Accounting Staffs about the quality of financial statements (See Table 1). Thus, almost similar opinion about the quality of financial statement is experienced from both the supply side and demand side. It shows that there are areas which need improvement especially at the recording stage (input) to make the output more accurate and reliable to decision makers and other stakeholders.

Table 5

Quality of Financial Statement- Secretaries View

AM	SD	LCL	UCL	Moderate	High
3.87	0.34	3.76	3.97	06 (13.3%)	39 (86.7%)

Source: Primary data

AM: Arithmetic Mean, SD: Standard Deviation, LCL: Lower Confidence Limit, UCL: Upper Confidence Limit

Being the administrative head, Secretary of ULB is responsible for the entire functioning including accounting. Th Secretary submit the annual financial statements to the Council for approval and submitted to the auditor. Table 5 signifies that from the Secretaries point of view, the overall quality of financial statements is high (Mean=3.87, SD=0.34, LCL=3.76 and UCL=3.97). Majority of the respondents (87 per cent) opined that the quality of Financial Statement is high whereas the rest has a moderate opinion. Being the executive head of the ULBs, Secretaries obviously hold high esteem about the system and its output. That may be the reason why majority have a good opinion about the quality of financial statements. This is contradictory to the opinion of Accounting Staffs and Audit Officials. Both have moderate opinion about the quality of financial statements-94 per cent and 83 per cent respectively against which 87 per cent of Secretaries hold a high opinion.

Comparison between the earlier and present systems of accounting from the user's point, in terms of recording and utility perspectives, is summarized in Table 6 and 7

Table 6
 CBSESA vs. ABDESA – Recording Perspective

Quality Practices	System	AM	SD	t	df	p
Database	CBSESA	3.08	0.41	3.391	23	0.003*
	ABDESA	3.58	0.58			
Keeping books and accounts up to date	CBSESA	3.00	0.51	3.635	23	0.001*
	ABDESA	3.71	0.75			
Completeness of books and accounts	CBSESA	2.92	0.50	5.376	23	<0.001*
	ABDESA	3.79	0.66			
Accuracy of books and accounts	CBSESA	3.42	0.58	1.479	23	0.153 ^{NS}
	ABDESA	3.00	0.88			
Up to date maintenance of Registers	CBSESA	3.33	0.76	4.184	23	<0.001*
	ABDESA	2.38	0.71			
Timely preparation of annual statements	CBSESA	2.71	0.55	5.369	23	<0.001*
	ABDESA	3.92	0.78			
Books and accounts in the Format	CBSESA	3.21	0.41	6.843	23	<0.001*
	ABDESA	4.29	0.55			
	ABDESA	3.50	0.93			

Source: Primary data

*: Significant at 5Per cent level ($P < 0.05$), NS: Not Significant ($P > 0.05$)

When we look at the table 6, it can be realized that the adoption of ABDESA is successful to a large extent in many respects by resolving the pitfalls of the earlier accounting system raised and experienced by National Finance Commission, Hon. Supreme Court, Funding Agencies and the ULBs in particular. Significant improvement is found under the new system in terms of strong database, keeping books and accounts up to date, completeness of books and accounts, up to date maintenance of registers, timely preparation of AFS and preparation of books and accounts in the format. As regards accuracy of books of accounts no significant difference is found from the earlier system. It is the most serious issue raised by the users of financial statements, especially auditors regarding the inaccuracy of books of accounts. When the books and accounts are inaccurate (due to errors or omissions), the reliability and usefulness of financial statements will be lost.

Table 7
 CBSESA vs. ABDESA in Financial Administration

Components	System	Mean	SD	t	df	P
Cash Management	CBSESA	2.84	0.37	2.940	23	0.007*
	ABDESA	3.20	0.71			
Tax Management	CBSESA	3.21	0.51	3.158	23	0.004*
	ABDESA	3.83	0.82			
Managing Arrear Collection	CBSESA	2.58	0.78	1.000	23	0.328 ^{NS}
	ABDESA	2.75	0.85			
Control over Expense	CBSESA	2.46	0.72	1.225	23	0.233 ^{NS}
	ABDESA	2.67	0.87			
Support in Budgeting	CBSESA	2.88	0.61	1.664	23	0.110 ^{NS}
	ABDESA	3.17	1.09			
	ABDESA	2.92	1.06			
Management of Liabilities	CBSESA	2.96	0.69	1.904	23	0.070 ^{NS}
	ABDESA	3.25	1.03			
	ABDESA	3.04	0.95			
Project Monitoring	CBSESA	2.83	0.64	3.444	23	0.002*
	ABDESA	3.42	0.72			
Assets Management	CBSESA	3.08	0.41	2.840	23	0.009*
	ABDESA	3.46	0.72			
Stores Management	CBSESA	2.71	0.46	3.391	23	0.003*
	ABDESA	3.21	0.83			
General Administration	CBSESA	3.00	0.42	3.680	23	0.001*
	ABDESA	3.54	0.88			

Source: Primary data

*: Significant at 5Per cent level (P<0.05), NS: Not Significant (P>0.05)

When we look at the support of accounting system in the financial administration as disclosed in table 7 that by the introduction of ABDESA, remarkable change has been noted in cash management, tax administration, asset management, stores management and general administration of ULBs. At the same time deficiency in integration of other software for tax collection, planning, budgeting, and other public services with SAANKHYA is badly affecting the areas like arrear management, budgeting, and expenses control.

Conclusion

Being a form of Government, ULBs are functioning with the public fund and public accountability. The 11th National Finance Commission envisaged transparency, accountability and good governance are as the thrust areas of Local Governance. In the financial administration, transparency and accountability can be materialized only through an efficient system of accounting and auditing. Recognizing this reality that the Government has moved to replace CBSESA with ABDESA in ULBs. At the initial stage as any other system faces, ABDESA also encounters several hurdles including policy issues, software issues, need for capacity building among Municipal Staff etc. The present paper reveals that the new system of accounting could overcome these issues to a large extent and acts as a strong database for financial administration of ULBs. However, State Audit Officers have expressed their apprehension on the accuracy of accounts mainly due to the reason for errors and omissions at the entry level. In ULBs, the recording element of accounting is performed in a decentralized way starting from front office and spreading over different departments including purchase, health, construction, revenue, planning, education etc. Being this is as the fact; it is quite impossible to get verified and ensure accuracy of each transaction through a single qualified Double Entry Accountant. The one and only solution is to have a permanent and continuous system for capacity building among Municipal Staff on Municipal Accounts Manual and SAANKHYA. So, let's hope for a transparent, accountable, and good governed ULBs with a foolproof accounting practice, resolving all its shortcomings.

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Higher Education During the Pandemic Period - A Study on Digital Initiatives and Online Classes in the Arts & Science Colleges in Kerala

Parvathy R Nair¹ & T Subash²

Abstract

COVID-19 was reported for the first time in Wuhan, which made a downward spiral in the world economy. It had a devastating effect on every sector of the economy including the education sector. Schools and colleges were forced to remain closed as part of social distancing measures adopted during the period. Several digital initiatives of various Government agencies gained wide acceptance during the period. Digital initiatives like e-GyanKosh, Swayam, VIDWAN, FOSSEE etc. are gaining popularity during the pandemic period and all of which facilitated the smooth functioning of academic activities in the crisis period. The potential of online classes are also utilized to ensure uninterrupted flow of teaching-learning process in the pandemic period. Even though, online classes have the advantage of the comfort of being at home, flexible hours of handling classes etc. it has its own drawbacks like difficulties in assessing students, lack of effectiveness, internet connectivity issues, lack of personal device for attending the online classes, anxieties, health issues both physical and psychological etc. The study is an attempt to list out such digital initiatives and also an assessment of online classes during the pandemic period. The study result highlight that comfort of being at home is the best part of online classes to teachers and students. Lack of effectiveness is the most important disadvantage of online classes. The constant use of mobiles, computers and laptops for a long time creates various types of health issues, both physical and psychological, to the respondents. Back pain, neck pain, eye problems, and headache are common issues for both teachers and students.

Keywords: Education, Digital initiatives, Online classes, Health issues.

Introduction

The outbreak of coronavirus disease 2019 (COVID-19), is a catastrophic calamity that has affected the entire world at the speed of light (Sundarasan et al,2020). The impact of which can be felt in every fields. No doubt the education sector is also affected, which made all its process in a standstill. (Thomas et al, 2020). Nearly 1.6 billion learners in more than 190 countries and all continents were affected by COVID-19 (UN,2020).

In India, Educational institutes/universities have remained closed since the mid of March-2020 because of the fast spread of COVID-19 (Naik, et al., 2021). About 32 crore learners stopped to move to schools/colleges and all educational activities were brought to an end (Jena,2020). All the stakeholders of the education system were forced to explore ways to overcome the barrier to compensate for the academic losses of learners. Teachers are forced to start using technology for distance and remote teaching. Online

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teaching tools like Youtube live, Google Classes, Zoom, WebEx, Skype, Moodle etc., have been used by teachers all around the world (Verma & Priyamvada, 2020). Online learning is inevitable in a pandemic situation as it provides the opportunity for carrying out teaching-learning process (Shaid, 2021). Since the beginning of the COVID-19 pandemic, Universities around the world have been taking rapid actions to ensure students learning continuity and secure the well-being of their students.

Statement of the Problem

Educational institutions all around the globe were forced to close their doors in response to the growing coronavirus outbreak. Seeking the help of digitalization was the only measure at the time to overcome the crisis. The pandemic has been steering the education sector forward with technological innovation and advancements. The contribution of digital initiatives of UGC, MHRD etc. and online classes cannot be ignored even in the post-pandemic period. The paper tries to list out some of the major digital initiatives in higher education. The advantages and disadvantages of online classes and the impact of online classes on physical and psychological health of teachers and students were also investigated through the study.

Objectives of the Study

1. To list out the digital initiatives in the higher education system which are gaining wide acceptance during COVID19.
2. To identify the best and worst parts of online classes from the point of view of teachers and students.
3. To analyze physical and psychological health issues of teachers and students due to online classes.

Research Methodology

The present study is descriptive and analytical in nature.

Digital initiatives of various Government agencies and online classes are the two pillars

that hold up the higher education sector to continue its functioning. Digital initiatives are widely used to facilitate the smooth functioning of academic activities during the crisis period. For ensuring the uninterrupted flow of teaching-learning process, online classes are inevitable during the pandemic situation. For easy understanding, the present study is presented into two parts - digital initiatives in higher education and online classes. The first objective is related to digital initiatives; the second and third objectives are related to online classes. The first objective is concerned with mere listing out of various digital initiatives of Government agencies in the higher education system, its purpose and also beneficiaries.

Data Sources

Both primary and secondary data were used for the present study. Primary data were collected from students and teachers to identify the best and worst parts of online classes and also for analyzing the physical and psychological health issues of the respondents using a questionnaire through online survey. Secondary data were used for listing out the digital initiative in higher education. For this, official reports of various Government and other agencies, research articles and websites were reviewed.

Population

Higher education system in the State of Kerala consists of arts and science colleges, engineering colleges, medical colleges, law colleges, B.Ed colleges, Arabic colleges, music colleges, physical education colleges and special education colleges. Since arts and science colleges constitute large in number, the study is limited to arts and science colleges. Hence the population for the present study is the students and teachers of arts and science colleges functioning in the State of Kerala.

Sampling

Multi-stage sampling was used for the purpose of selection of samples. The first stage is concerned with the selection of universities. From among the four universities which are general in nature i.e. Kerala, MG, Calicut and

Kannur one was selected at random ie. MG university. The next stage is concerned with the selection of colleges. Among the fifty seven aided and government colleges under Mg university ten were selected at random. Next stage is concerned with selection of respondents. Purposive sampling was used for selection of sample respondents. From among 579 teachers working in the selected colleges fifty teachers were purposively chosen. Teachers handling at least three hours of online classes per day and had previous experience in handling offline classes only were selected as samples. Third year degree students only were considered for the study as they are having offline class experience and online class experience in the same institution. Those teachers and students satisfying the criteria set only were included in the sample frame. Five teachers and five students from the selected

colleges satisfying the criteria were selected as samples for the study. Accordingly, hundred respondents were selected. A sample size of thirty are even acceptable for a comprehensive assessment (Shetty, (n.d.)) hence, the sample size is justifiable.

Tools Used

Data collection tool for the study is questionnaire which was distributed using Google Forms online application. Ranking questions and scaling questions were included in the questionnaire. Collected data were analysed with the help of IBM-SPSS and MS Office Excel. Simple percentage and Mann Whitney U test were used for analyzing the collected data. As the sample size is small non-parametric test is suitable for the study, hence Mann Whitney U-test is used. Excel functions like COUNIF, SUMPRODUCT were also used for the study.

Table1
Variables Selected for the Study

Objectives		Variables
Best and worst part of online classes	Best part	Flexibility, Comfort, Convenience, Ease of conduct, Advantages of integrating technology in teaching learning environment
	Worst part	Lack of effectiveness, Less face to face interaction, Difficulty in proper assessment and feedback, Technical problems, Difficulty with practical sessions
Physical and psychological health issues	Physical	Back pain, Neck pain, Eye problems, Head ache
	Psychological	Symptoms of depression, Sleeplessness, Anxiety

Analysis and Discussion

Objective 1 - Digital initiatives in higher education

Inorder to list out various digital initiatives getting popularity during the pandemic period official reports of various Government and other agencies, research articles and websites were reviewed. On the basis of the data got from the literature, the following initiatives were listed out which can be used by teachers and students during the pandemic period and even in the post-pandemic period.

The MHRD and University Grants Commission (UGC) have made several arrangements by launching many virtual platforms with online depositories, e-books and other online teaching/learning materials, to students to continue their learning. Some of the digital initiatives of UGC & MHRD for higher education gaining popularity during COVID-19 are:

1. eGyanKoshis a National Digital Repository of digital learning resources of open and distance learning institutions in the country. It stores, index, preserve,

- distribute and share the resources with all its rights reserved by IGNOU, unless otherwise stated(Gupta& Gupta,2017)
2. Gyandarshan was launched in the year 2000, which offers 24-hour educational channels. It is one of the joint ventures which is started by the Ministry of Information & Broadcasting (I & B Ministry), Ministry of Human Resource Development (MHRD), These learning programs include lessons for primary, pre-school, higher and secondary students, college students, young people looking out for career opportunities, and various working professionals. (Gupta& Gupta,2017).
 3. NEAT (National Education Alliance for Technology) a Public-Private Partnership model between the Government and the Education Technology companies of India. It aims to bring the best technological solutions in education pedagogy on a single platform for the convenience of learners (Jena,2020).
 4. Gyandhara IGNOU's internet audio counselling service is known as Gyandhara, which facilitates live discussions by the teachers and experts on the topic of the –Adhyayan, which can be listened by students(Gupta & Gupta,2017)
 5. Shodhgangais a digital repository of theses and dissertations submitted to Indian universities. It is maintained by INFLIBNET Centre , which ensures easy access and archiving of theses(Gupta & Gupta,2017).
 6. e-PG Pathshala is a gateway for e-books upto PG which provides High quality, curriculum based, and interactive content in different subjects across all disciplines(Gupta& Gupta,2017).
 7. VIDWANA premier subject expert's database and national research network in India that contains information about expert's background, contact address, skills and accomplishments of the individuals. The database provides support to researchers, scientists, respective organisations and Government agencies for finding similar experts in same subject areas (Panda&Kannan,2016).
 8. E Adhyayan project is initiated by UGC and Ministry of Human Resource development. It is a repository of e-books for undergraduate and post graduate courses. The e-books are derived from e text of e-PG pathshala(Gupta& Gupta,2017)
 9. NDLI (National Digital Library of India) (<https://ndl.iitkgp.ac.in/>) is a repository of e-content on multiple disciplines for all kinds of users like students (of all levels), teachers, researchers, librarians, library users, professionals, differently-abled users and all other lifelong learners. It is being developed at the Indian Institute of Technology Kharagpur (Gupta & Gupta,2017)
 10. SAKSHAT A One Stop Education Portal launched on October 30, 2006 to facilitate lifelong learning for students, teachers and those in employment or in pursuit of knowledge free of cost to them. The content for the respective subject, was prepared by representatives from educational institutions like IGNOU, Delhi University, Kendriya Vidyalaya Sangthan, Navodyaya Vidyalaya Sangthan, National Institute of Open Schooling and National Council for Educational Research and Training etc. (Mahat & Nalawad,2013).
 11. FOSSEE (Free/Libre and Open Source Software for Education) is part of the National Mission on Education through Information and Communication Technology (ICT), Ministry of Education (MoE), Government of India. It promotes the use of FLOSS tools to improve the quality of education in our country. It promotes open source software for education as well as professional use(Gupta & Gupta,2017).
 12. National Academic Depository of India: The National Academic Depository of India is an initiative Ministry of Human

Resources Development, Govt. of India towards maintaining a database to hold the academic awards issued by Educational Institutions in an electronic and digital form (Gupta & Gupta,2017)

13. SWAYAM (Study Webs of Active Learning for Young Aspiring Minds) is a mobile and web-based interactive open education interface where courses are found from high school to university level which is designed to achieve access, equity and quality of education. (Majumder, 2019). The objective of this effort is to take the best teaching learning resources to all, including the most disadvantaged. The SWAYAM is four quadrant approach e-Tutorial, e-Content, Web Resources, Self-Assessment (Hiremath, 2017).

Discussions

The covid19 pandemic necessitates relying on various online platforms to continue academic activities all around the globe. Digital initiatives like e-GyanKosh, SWAYAM, VIDWAN, FOSSEE etc. are gaining popularity during the pandemic period and all of which facilitated the smooth functioning of academic activities in the crisis period.

Objective 2 -Best and Worst part of Online Classes

Review of Literature

Different stakeholders have their own experiences and are facing various problems with online learning mode. Review of literature reveals that unrestricted access to information, knowledge and learning can be considered as the foremost advantage of online classes to learners. The use of e-tools largely contributes to enhancing student's digital intelligence and IT competencies in general (Zounek & Sudický, 2013).Time-saving and flexible class timing can be considered as the

important advantage of online classes(Dangal & Maharajan,2021). The main benefit of online education to both faculty and students is that it allows time and place for independent access (Jingyu,2014).

Less interaction seems one of the important cons of the online classes for teachers and students. Lack of effectiveness is the worst part of online classes as far as teachers and students considered(Dangal&Maharajan,2021).Lack of material equipment, internet connectivity and also,lack of sufficient knowledge and skills to use these technologies are the main disadvantages of online classes. Technology-enhanced learning may also cause negative resentments with students who lack sufficient motivation and the ability to organize workload and learn independently(Zounek&Sudický,2013).

Result of Survey Data

Through the literature review most important advantages and disadvantages of online classes were identified and were used in the questionnaire. The respondents were asked to rank the advantages and the disadvantages of online classes. First rank will be given to most important one and last to the least important one. The collected data were analysed using excel functions like COUNTIF, SUMPRODUCT etc. to rank the statements as per the order of importance. The statement having least SUMPRODUCT value will be the most important one and vice versa. Excel formulas applied for ranking are:

COUNTIF: For counting the number of respondents gave same rank for the statements.

(=COUNTIF(range,criteria)

SUMPRODUCT: To find out weighted rank score for each statements.

(=SUMPRODUCT (array1, [array2], array3],....))

Table 2
SUMPRODUCT Score of Advantages of Online Classes

Advantages	1	2	3	4	5	Score
	(=COUNTIF(range,criteria))					(=SUMPRODUCT(array1,[array2],array3),....))
Flexible hours of online classes	14	49	16	17	4	248
Comfort of being at home	54	18	24	4	0	178
Convenience of online classes with limited resources	16	17	52	11	4	270
Ease of conduct	5	4	7	47	37	407
Effective use of technology	11	14	12	21	42	369

Note: Primary Data

The result of the analysis of best practices of online class is presented through the table. Rank given by the respondents to each statements were found out by COUNTIF function and score for each statement was calculated using SUMPRODUCT function. Statements having least SUMPRODUCT score indicate that it is more advantageous. Thus, with respect to the best part of online classes comfort of being at home comes first as its SUMPRODUCT Score is the least and ease of conduct comes last as its SUMPRODUCT Score is the highest. The result made it clear that the stakeholders prefer to attend or handle

their classes at a convenient place. In case of teachers or students who are staying far away from the educational institution have to travel long distance to reach the college and the physical illness and other contingencies also interrupt them from reaching the institution. All these problems are covered through online classes as it offers the advantage of being at home but the fact can not be ignored that conduct of online classes is not easy as classroom based classes as the stakeholders have to take care of infrastructure, network coverage, distractions from family members during the classes etc. Hence, conducting online class is not an easy task.

Table 3
SUM PRODUCT Score of Disadvantages of Online Classes

Disadvantages	1	2	3	4	5	Score
	(=COUNTIF(range,criteria))					(=SUM PRODUCT(array1,[array2],array3),....))
Online classes are less effective	31	29	20	16	4	233
Less face to face communication and interaction	26	16	25	19	14	279
Difficulties in assessing students and providing adequate feedback	16	8	19	14	43	360
Network problems	15	30	26	24	5	274
Not useful for handling practical sessions	13	20	10	18	39	350

Note: Primary Data

The result of the analysis of the worst part of online classes is given in table 3. Statements having least SUMP RODUCT score is the worst part of online class and vice versa. Lack of effectiveness is the worst part of online classes as its SUM PRODUCT Score is the least and difficulties in assessing students and providing adequate feedback comes last as its SUM PRODUCT Score is the highest.

In the absence of face-to-face interaction and the physical presence of teachers and students in a common place the online classes became less effective. Teachers are efficient in handling and assessing their students through online mode. The technological advancements are sufficient enough for the teachers to assess their students and provide adequate feedback during online classes.

Objective 3: Physical and Psychological Health Issues resulting from online classes

Review of Literature

ICT-based education causes some health-related issues such as eye-strain, back pain, lack of movement, and even mental disorders connected predominantly to spending long periods of time working with computers (Zounek & Sudický, 2013). Teachers are facing multifarious discomforts in the spheres of their work and family life during the pandemic period, which will cause conflict with their family life and within their other relationships. It will cause problem with

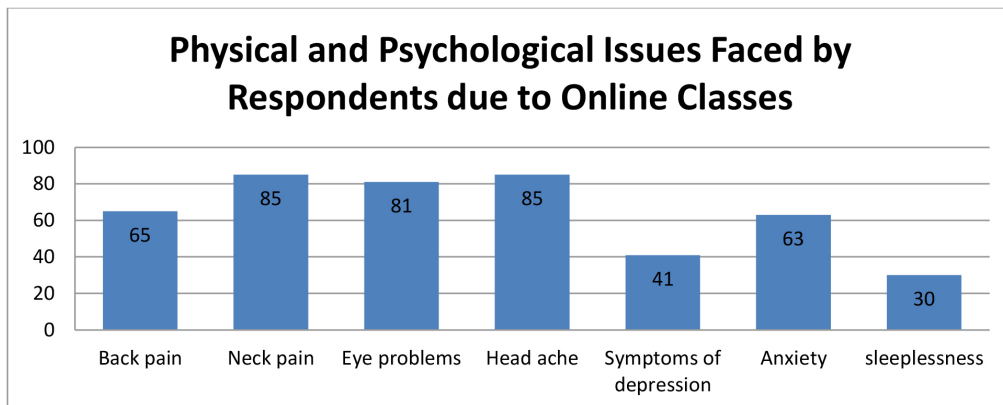
their psychological well-being and with the degree of their QWL. (Thomas et al, 2020). Back pain and eye pain are common issue for teachers as a result of these online classes (Dangal & Maharjan, 2021). Online class taker teachers are having higher physical illness; such as headache, eye-problems, Shoulder and back pain, stomach-related problems etc., in comparison to without online class taker teachers but online classes do not influence the psychological health of the teachers (Kumari, A.2020) which is contrary to the study result of (Hunt & Eisenberg, 2008) that long-time use of electronic devices are harmful to one’s physical and mental health.

Looking into the effect of online classes on students’ health, the most common issues seem to be eye pain and back pain, and headache. A larger percentage of students are reported to have headaches (Dangal&Maharjan, 2021). Weak interpersonal actions, alienation from real world etc. cause psychological problems to learners (Sahu, 2020). Female students, younger students, specifically those in the age group of 17 to 18 years, and those who are staying alone are experiencing higher stress sue to online classes as compared to that of their counterparts.

Analysis of Survey Data

The graphical representation of Physical and Psychological Issues Faced by Respondents due to Online Classes were given in figure3.

Figure 1 Physical and Psychological Issues Faced by Respondents due to Online Classes



Note:Primary Data

Figure 1 shows that neckpain and headache are the common issue for teachers and students due to online classes. 85 per cent of respondents are experiencing neck pain and headache while 81per cent of the respondents are having eye related problems due to the use of laptops or mobile phones for a long time for online classes. Most of the stakeholders are using mobile phones for attending classes and the seating arrangements may not be straight and scientific looking down to the phone for a long time may result in neck pain. A safe distance of the device from the eyes may not be kept by the users which may result in eye-related problems. From the result, it can be interpreted that the constant use of mobiles, computers and laptops for a long time creates various types of health issues to its stakeholders. Compared to health issues

symptoms of psychological problems are found less among the respondents. Only less than half of the respondents had sleeplessness or other symptoms of depression but the anxiety was a common issue among 63per cent of respondents.

Testing of Hypothesis

Four hypotheses were framed for assessing the physical and psychological health issues faced by teachers and students with respect to online classes. These hypotheses were tested with the help of Mann Whitney U test. The hypothesis and test results were given in table 3 to 6.

H₀₁: There is no significant difference between physical health issues suffering by students and teachers.

Table 4
Physical Health Issues to Students and Teachers

	Physical Health Issues
Mann-Whitney U	1125.500
Wilcoxon W	2400.500
Z	-.864
Asymp. Sig. (2-tailed)	.388

Note: Primary Data

There is no evidence to support a difference between teachers and students regarding their physical health issues.(U=1125.500,N1=50, N2=50, p=.388 two-tailed).Hence null hypothesis is failed to reject. The physical issues are common for both teachers and students as both the categories have to sit for long hours continuously looking to electronic devices which can cause severe health issues.

H₀₂:There is no significant difference between male and female with regard to their physical health issues.

Table 5:
Physical Health Issues to Male and Female

	Physical Health Issues
Mann-Whitney U	771.500
Wilcoxon W	3186.500
Z	-2.235
Asymp. Sig. (2-tailed)	.025

Note: Primary Data

The Mann Whitney U test revealed a significant difference between male and female regarding their physical health issues.(U=771.500,N1=31, N2=69, p=.025 two-tailed). Hence null hypothesis is rejected. Hence, can be interpreted that gender is playing a significant role in the physical health issues of respondents. Health issues like back pain can be more severe to female respondents than their male counterparts which can be the cause of difference between both groups.

H₀₃:There is no significant difference between psychological health issues suffering by students and teachers

Table 6
Psychological Health Issues among Students and Teachers

	Psychological Health Issues
Mann-Whitney U	758.500
Wilcoxon W	2033.500
Z	-3.410
Asymp. Sig. (2-tailed)	.001

Note: Primary Data

The Mann Whitney U test revealed a significant difference between teachers and students regarding their psychological health issues(U=758.500,N1=50, N2=50, p=.001 two-tailed). Students have more psychological issues compared to that of teachers.As the students are the beneficiaries of online classes the interruptions during the classes affect their mental health, they also have to bear the tension of exams. All of these lead to more psychological stress to them. Hence null hypothesis is rejected.

H₀₄: There is no significant difference between male and female regarding psychological health issues

Table 7
Psychological Health Issues among Male and Female

	Psychological Health Issues
Mann-Whitney U	841.000
Wilcoxon W	1337.000
Z	-1.714
Asymp. Sig. (2-tailed)	.087

Note: Primary Data

The Mann Whitney U test revealed that difference between male and female regarding their psychological health issues cannot be considered as significant(U=841.000,N1=31, N2=69, p=.087 two-tailed). It can be inferred from the result that gender is not playing a significant role in the psychological health issues of respondents. Hence null hypothesis is failed to reject.

Conclusion

The COVID-19 pandemic has severely affected the education system across the world. Educational institutions were temporarily closed in an attempt to control the spread of Covid-19. Teachers were instructed to shift to online mode of teaching to prevent academic loss to students. Online classes are become the new normal in the higher education system having its own merits and demerits.

The comfort of being at home is the best part of online classes to teachers and students. Lack of effectiveness is the most important disadvantage of online classes. The constant use of mobiles, computers and laptops for a long time creates various types of health issues both physical and psychological, for the respondents. Back pain, neck pain, eye problems, and headache are common issues for both teachers and students. Online classes compel teachers and students to sit a long time in front of laptops and mobile phones, which causes back pain and neck pain. The brightness and radiation of devices cause eye problems, headache etc. No difference was found between health issues faced by teachers and students. Both the categories are vulnerable to the health issues resulting from online classes. Coming to the psychological issues symptoms of depression, anxiety and sleeplessness were more common among students than teachers. The study showed that in spite of the advantage of being flexible and comfortable, online classes have its own demerits, which make it not much interesting for their stakeholders. It is only a temporary solution for the time being but would never be a permanent replacement of the traditional mode of teaching-learning. A hybrid system which combines the traditional and online classes can integrate the advantages of both the systems can be used in future by the academic community to make the teaching-learning process more effective and interesting.

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Household Access to Credit in Times of A Natural Disaster – The Case of Kerala Floods

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Abstract

The floods that ravaged the state of Kerala caused unparalleled damage to the financial lives of the affected households. In such a scenario, access to credit is seen as the most crucial way to revive their lives. However, the credit markets do not always function in the expected lines. In light of this study, conducted a field survey among the loan officers of various financial institutions in Wayanad, to document the lending standards followed by them during the time of floods. Besides, the perspective from the side of households was also gathered to get an unbiased view of the situation. The data of the study were analysed using the weighted scoring method. It was found that overall demand for credit was higher for financial institutions, and as result, these institutions tightened their lending standards creating hurdles for households.

Keywords: - Credit, Financial institutions, Household, Kerala, Natural disasters

Introduction

Today, both industrialised and developing countries are experiencing an increase in the number of shocks, such as recessions or macroeconomic instability, which result in significant loss of life and property. Natural disasters, on the other hand, can have the most devastating results ever seen. The floods that hit Kerala were an example of this, it resulted in catastrophic damage to the life and property of people. Evidence on the impact of natural disasters on the financial access of households is incomplete by just analysing the credit taken from formal institutional sources like banks. In fact, data on credit taken from informal credit sources is often silent.

Even though recently there has been a surge of interest in studies that are investigating the economic impact of natural disasters, studies on the household as a unit are scarce, with just a little evidence on the same like household welfare (Yasuyuki Sawada, 2007) and income

of households (Anh, 2014). However, the literature highlights access to credit as a major risk-coping strategies in natural disasters (Yasuyuki Sawada, 2007). Yet the impact on access and demand to finance remains understudied, particularly after natural disasters.

The study by Del Ninnoet (2003) found that, following a significant flood in 1988, households in Bangladesh borrowed significantly more. However, studies such as the latter which investigated the demand and access to credit are scarce. The present study is an attempt to study the impact of natural disasters on a household's credit demand and the approval of the same by financial institutions. For this purpose, the lending standards and loan demand in the rural markets, from the perceptive of loan officers and the demand for loan from households in general has been studied. Thus, giving an important insight into the major challenge

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faced by households in the credit markets in the aftermath of severe natural disasters.

This study makes some vital contributions. First, the study investigates household access to credit after a major catastrophe like floods. Thus, throwing important insights into how households react in the aftermath of a natural disaster? To the best of our knowledge, this is the first of its kind in Kerala. Secondly, the study also extends into examining the effect of natural disasters on the lending standards of various financial institutions in the region. The remaining of the paper is as follows. Sections II deals with literature review, while section III is related to the methodologies employed in this study. Section IV on the Data analysis part, while the last part concludes with conclusions and policy implications.

Review of literature

A natural disaster is defined in line with the study of Benson and Clay (2004), in which it is defined as the occurrence of an abnormal hazard that affects geographical areas causing substantial damage and disruption. They cause direct and indirect damages to economic activities in the short term (Hochrainer, 2009; Okuyama, 2003). In fact, a consensus on the short-term economic impacts of natural disasters appears to be emerging in the literature (see e.g., Loayza et al., 2009, Raddatz 2007). Most of this research has to rely either on cross-sectional surveys conducted during or after the crisis event or on short panel surveys in its pursuit to study the impact of these disasters (e.g., Fallon & Lucas, 2002).

However, we cannot make a generalisation on a natural disaster which affected a particular region to another incident which happened in some other part of the world. In fact, what seems obvious is that the economic impact of disasters would depend on the type and magnitude of the incident combined with the underlying socio-economic and physical vulnerability of the affected region. Thus, the impact of the floods that happened in Kerala is unique by its own terms and the way local credit market functioned in those times

determines the progress of individuals and households residing in those affected areas. In fact, this is also substantiated by the recent macroeconomic evidence of the financial intermediation framework mitigating adverse economic consequences of these disasters (Loayza et al., 2012; Noy, 2009; Skidmore and Toya, 2002; von Peter et al., 2012).

Financial institutions by incorporating strict lending standards, can adversely impact the supply of credit in times of various events such as recession and external shocks. Thus, the lender's response to the scenario was also closely evaluated in the literature. This is important as this helped to get a complete picture of how things played out on the ground. For this purpose, most of the studies used bank loan officer surveys, some of the studies that used it to identify credit supply shocks include Lown and Morgan [2006]; Bassett et al. [2014]; Becker and Ivashina [2014] and more recently in the Euro area Del Giovane et al. [2011]; Ciccarelli et al. [2015]; van der Veer and Hoeberichts [2016].

Objectives

1. To assess the demand for credit by the households in the aftermath of the Kerala floods.
2. To investigate the household access to credit in the aftermath of the Kerala floods.
3. To evaluate the lending standards of various financial institutions after the floods.

Research Methodology

The study gathered primary data from households and loan officers from financial institutions through a field survey. The data used for the study was generated through a comprehensive household survey in the districts of Wayanad in Kerala. The survey was carried out immediately in the aftermath of the floods in November 2019. The survey was administered using a questionnaire which enquired about the demand for loan by the households, the incidence of indebtedness (which represent access to credit) and also

about the lending standards adhered to by the financial institutions. The sample household for the study was identified using the purposive sampling method. A total of 150 questionnaires were administered among the households, out of which 126 questionnaires were returned, and 100 questionnaires were found correct and useful for the study was taken.

In addition to household data, the study gathered primary data from 30 loan officers of thirty financial institutions in flood-hit areas of Wayanad district in Kerala in order to understand more about the bank lending practices followed by the financial institutions during the floods. The sample of loan officers of financial institutions in the study includes the major public banks, private banks, Cooperatives, Non-Banking Financial Companies and Microfinance institutions (MFIs) who have agreed to cooperate with the study to provide the necessary information for the purpose of the study. The study indeed has two main variables, lending standards and loan demand. The variable lending standard in the study was measured by asking the question, "Over the last three months, how have your bank's credit standards for approving applications for loans or credit lines to households changed?" The next major variable loan demand, was measured by asking the question, "Over the last three months, how has the demand for loans or credit lines to households changed at your bank, apart from normal seasonal fluctuations?"

Results from the survey are reported as a net index (expressed as a percentage). The net index is calculated as the weighted percentage of respondents reporting an increase in demand for loans (or tightening of credit standards) minus the weighted percentage of respondents reporting a decrease in demand for loans (or

easing of credit standards). Weightings are determined such that those responses indicating a modest change are given half the weighting of those reporting a significant change in the surveyed quarter. For the demand measures, a positive score indicates growth in demand for loans during the quarter, and for the measures of credit availability and standards, a negative score indicates an easing in credit standards during the surveyed quarter.

For demand for loans, net index = (% Reporting Substantial Increase + 0.5 x % Reporting Moderate Increase) - (% Reporting Substantial Decrease + 0.5 x % Reporting Moderate Decrease)

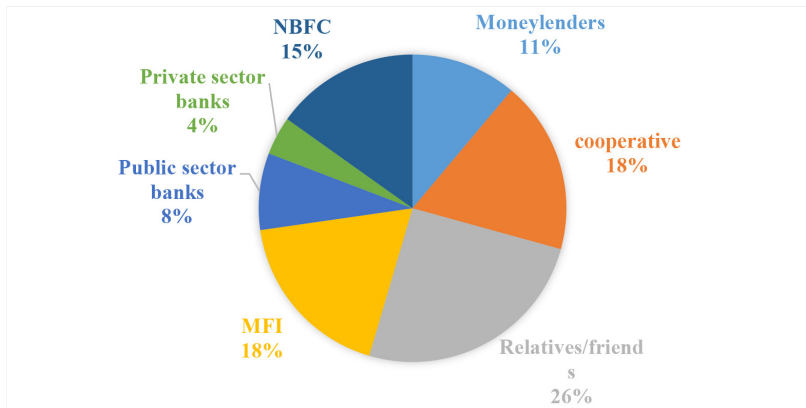
For credit standards, net index = (% Reporting Significant Tightening + 0.5 x % Reporting Moderate Tightening) - (% Reporting Significant Easing + 0.5 x % Reporting Moderate Easing)

Data analysis

IV.1 Household access to credit after natural disasters.

Among the sample households in the study only 71 per cent demanded or applied for credit. In fact, out of those who applied for credit, only 48 per cent of samples received assistance in terms of credit. This gives an indication on the tightening of lending standards by financial institutions in the aftermath of floods, which can be detrimental to the prospects of poor households. The average outstanding mean value of all reported loan applied by the households was approx. 128000 and the average mean amount received by households as reported was 41280. Thus, further highlighting instances of credit constraints faced by the households.

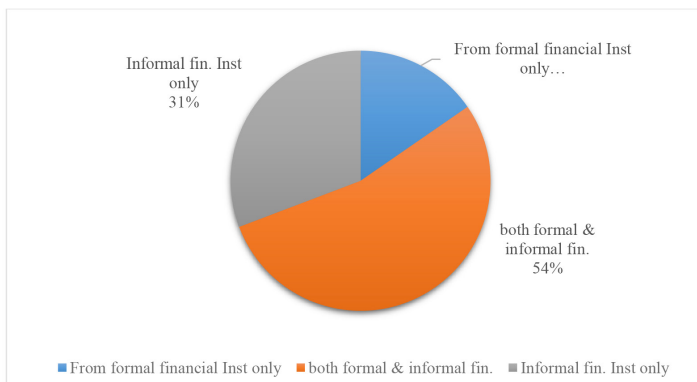
Figure 1: Share Of financial institution in overall credit



Source:- Primary data

The share of credit from relatives or friends in the overall share of credit is high, which indicates the existence of big family and community networks in society. The households are able to get these loans at a very cheap rate or at no interest rate without many difficulties compared to other sources of finance. After the credit extended by friends, the credit extended by MFIs and cooperative banks is the next major source of credit. This is basically because most of the institutions are local to the area they function and have a better mechanism to monitor the repayment of the clients; apart from this, they may have an existing good relationship with the client. NBFCs, moneylenders also seem to have decent share in the overall credit. Private banks occupies the least share which actually might be due to the fact that the banking relationship of the households with these banks would be below.

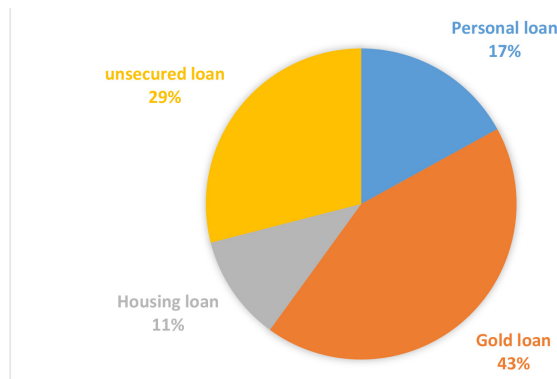
Figure 2: Percentage of households using credit from different sources



Source:- Primary data

In Figure 2, It is seen that 54 per cent of households have taken credit from both formal and informal sources. This basically hints to the problems of households in accessing credit from formal financial institutions. Due to credit rationing, the households are left to take credit from informal sources for the balance amount. It is also interesting to note that certain households took loans solely from informal sources, i.e. 31 per cent; even though this comprises of some households who were deprived of credit from formal sources, it also consisted of households who opined that due to damage to collateral records with them they approached informal sources straight away.

Figure 3: Type of loan accessed by households



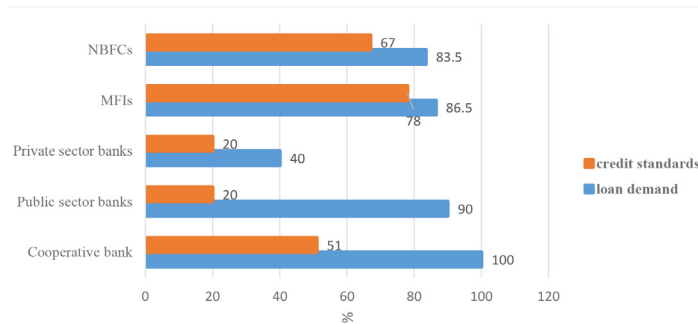
Source:- Primary data

From Figure 3, it becomes more evident that the major type of loan accessed by households was gold loans, as it was the most convenient form of loan for low and middle-income households due to the fewer formalities involved and easy disbursement of loans. Thus gold loans constitute 43 per cent, followed by unsecured loans (29 per cent) and personal loans at 17 per cent. Both basically have no collateral requirement, however, the personal loan is only available to salaried individuals, mostly belonging to low-middle-income or middle-income households taken through commercial banks. But unsecured loan is dealt mainly by MFIs and moneylenders who extend credit to low income, less creditworthy customers.

IV. 2 Lending standards of financial institutions.

1. Loan demands and credit standards of financial institutions in the past three months

Figure 4: NI for loans from households and credit standards of financial institution



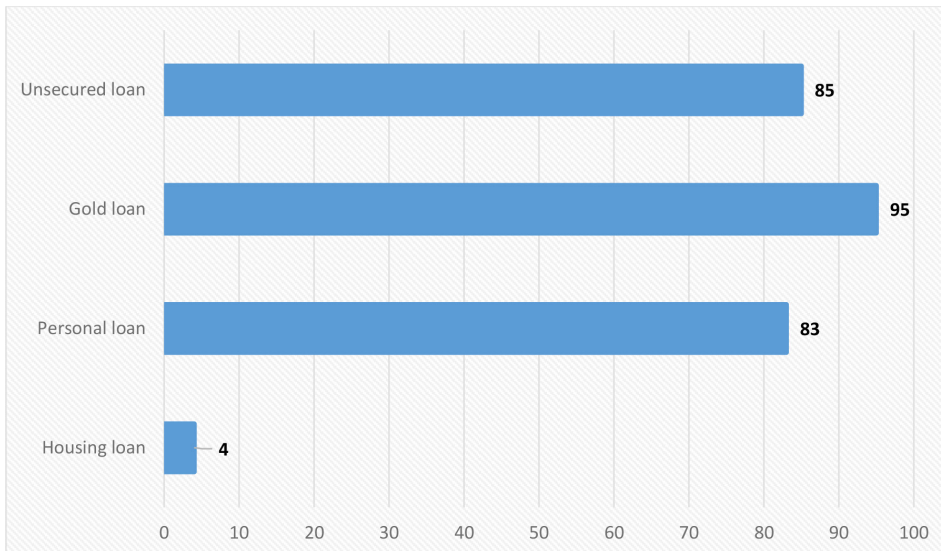
Source:- Primary data

Based on loan officers of 30 financial institutions, the net index values calculated gave positive scores with financial institutions such as cooperative banks in the area leading the charts of demand with a NI value of 100, which indicate a substantial increase in loan demand, followed by public sector banks with a score of 90, followed by MFIs, NBFCs and private sector banks being the last. This needs to be read along with the fact that there has been a significant tightening in credit standards followed by almost all types of financial institutions with MFIs becoming the most toughest of the lot with a NI value of 78, which is a positive signifying tight standards. Closely followed by NBFCs and cooperative banks. The high demand in the case of cooperative banks may be due to the fact that MFIs have significantly tightened its credit standards, and that of cooperative banks is comparatively lesser. Even though there was a spike in demand for loans in public sector banks but the loan officers say that they just tightened credit

standards moderately. Because of the social obligation of these banks, however, due diligence was also followed in the course.

2. Demand on common type of loans by the households

Figure 5: NI values on Demand on popular type of loans

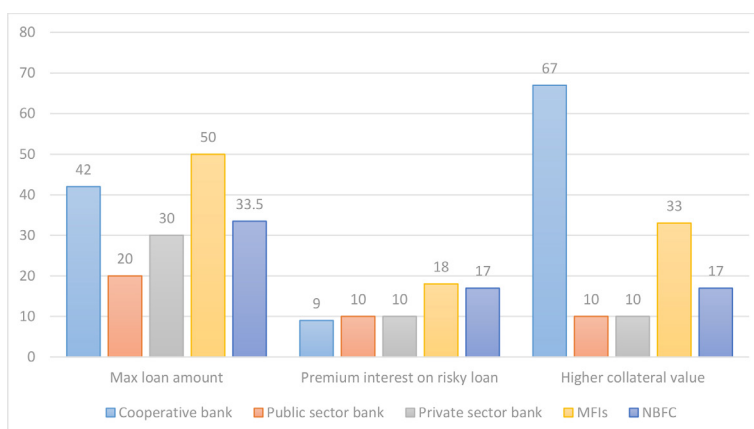


Source:- Primary data

In the above figure 5, it becomes much more clearer that the demand for a different type of loans has increased since all the values returned a positive score. The most sought after loan is gold loan (95) during the period; this is justifiable due to the fact that most of the people who look for immediate money over a short period will basically go for a gold loan. This is followed by unsecured loans (85) and personal loans (83), as they can be raised with minimal procedural formalities. Housing loans don't seem to have high demand compared to the rest, this is basically due to the fact that, it is one of the difficult loans to get requiring high creditworthiness and collateral requirement.

3. The terms and conditions of loans to households

Figure 6: NI (%) values for change in terms and conditions of loans to households



Source:- Primary data

It was already seen that all financial institutions had tightened their credit standards considerably. This can be further explored by enquiring more about the changes in terms and conditions of loans extended by financial institutions to households. From the above (figure 6) it can be interpreted that the terms and conditions of loans to households have been modified by all financial institutions over the past three months. A high collateral value and a ceiling on the maximum amount of loan to be disbursed being significant changes in the terms and conditions of financial institutions. Even though significant tightening is seen in all factors and in between financial institutions, there are also cases when certain institutions demand higher collateral value than other like cooperative banks or MFIs insisting in putting a ceiling on the maximum amount of loan to be disbursed. It can be interpreted that the credit standards of public sector banks being the more liberal at these times and that of cooperative banks being the most toughest.

Conclusion

This study investigated household access to credit in Kerala in the wake of Floods in the state by taking indebtedness as a proxy, and it was found that only 34 per cent of the households accessed credit, indicating tighter lending standards by the financial institutions. Besides this, the demand for credit and the source of credit utilised among the households were investigated by using a field survey of loan officers from various financial institutions. From which, it was found that the demand for credit from cooperative banks and nationalised banks was substantially very high. It was understood that gold loans and unsecured loans were the most sought after loans by households. However, the loan officers from various financial institutions reported that due to increased demand, the financial institutions tightened their standards considerably in order to avoid faulty clients. This is evident when we gather information from the households, it can be seen that households basically resorted to friends and relatives for credit, followed by MFIs and NBFCs. Thus, the study highlighted that the credit accessibility among

the household in the wake of floods in Kerala carried significant hurdles. Compared to other financial institutions, public sector banks offer a better opportunity for households in terms of acquiring credit, however other financial institutions also must act judiciously in the wake of such events. The Government and State level Bankers committee must also ensure that the financial institutions implement the directives released by them in the ground level.

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Legal Regulation of False and Misleading Advertisements with Special Reference to Consumer Protection Act, 2019

Meenakumary S¹

Abstract

Advertising is an effective sales promotion technique to bring the products and services to public attention and persuade consumers to purchase them. It is one of the important elements of the promotion mix and the best marketing strategy adopted by marketers to highlight their products and ensure maximum public outreach as it has various media sources such as TV, radio, newspapers, posters and other social networking websites extended towards the public. The quality of advertisement, namely, celebrity endorsements, definitely influences the consumer's buying behaviour and hence plays a vital role in the decision-making process of product purchase. Hence consumer's interests must be protected in relation to these advertisements through proper legislation and Consumer Protection Act, 1986 was enacted by the Parliament to protect, promote and enforce the rights of consumers in case of consumer rights violations and unfair trade practises, and proposed a three-tier redressal mechanism at District, State and National level for speedy disposal of consumer grievances. Later on, this Act was replaced by Consumer Protection Act, 2019 which inserted new provisions for false and misleading advertisements and establishment of Central Authority for effective enforcement of consumer rights. This Article reviews the legal regulation of false and misleading advertisements under the Consumer Protection Act, 2019 and the establishment of a new investigation agency known as Central Consumer Protection Authority (CCPA) for investigating and deciding on matters relating to misleading or deceptive advertisements.

Keywords: Consumer, regulation, false and misleading advertisements

Introduction

Advertising is an important element of the marketing mix by which marketers make use of the various tools of communication with the twin objective of targeting potential customers over a specific product and persuading them to purchase it. It is one of the most commonly used tools of promotion. There are three major concerns focused on the information that marketers provide to consumers, generally in the form of advertisements-the, accuracy of the information provided, the adequacy of the information provided, and the cumulative

impact of marketing information on society's values (Hawkins et al, 2007).

Advertising is an optimized tool of promotion which is developed to bring products, services, opinions, or causes to greater public attention and thereby influence them to respond positively in favour of the advertisements (Jain, 2008). Advertisement to be effective, it must satisfy the interest of the public and the result of a skilled quality media. There are numerous media of advertising namely, print media consisting of newspapers, magazines; radio, TV, Billboards and posters,

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audio pronouncements, hoardings, personal advertisements, direct mail and internet. Now, all over the world, advertisement is being used to influence consumers, and the response of consumers are determined by considering the following factors (Bagga, 2013):

- Awareness about the product or service
- Regular practise to use it or not to use it
- Efforts
- Communication
- Beliefs, and
- Optimum utilization

In order to prevent advertisements from misleading and exploiting consumers, a brand-new code of conduct was laid down by the Parliament to be the Consumer Protection Act, 2019. The New Act came into force on July 2020 and introduced provisions for false and misleading advertisements in addition to unfair trade practices. False and misleading advertising is a type of deceptive or untrue advertising making false claims or guarantees intentionally to promote the sale of property, goods or services. The Act of 2019 has also established a Central Consumer Protection Authority, otherwise known as Central Authority, to investigate on matters relating to false and misleading advertisements which are detrimental to the interest of consumers and has also conferred on them the power to pass orders to discontinue the misleading advertisement or modify the same, impose penalties and punish the offenders with imprisonment, as the case may be.

Advertising and Consumer Buying Behaviour

Advertising is a selling idea that aims to influence the shopping behaviour of various categories of consumers. Whereas client behaviour is the method by which individuals appraise, choose and consume the merchandise or service to satisfy their want or wish. The foremost common medium of advertising includes newspapers, magazines, social networking websites, television, radio, brochures and posters. In olden times marketers used completely different signs and symbols to promote their merchandise and conjointly

to form awareness for the purchasers. With the advancement and development in art, graphics and skilful technologies, currently marketers use advertising in the concert of the foremost acquainted medium of communication to guide the possible consumers.

Celebrity attachments, attractive audio and video representations with special effects and promises enhance confidence in the mind of viewers as they assure standard product quality and make even simple products more desirable. Advertising plus famous celebrity involvement promotes and raises the awareness of a product in the minds of the potential customers and also definitely influences the product purchase. There is no doubt that today most organizations invest huge amounts in marketing their products and services through these modes as it can reach the maximum audience with efficient cost.

Advertising Influence on Children and Adolescents

Children are inhabitants of media-rich surroundings and are exposed to advertisements mainly on Television, newspapers and online social networks like YouTube, online shopping websites and other online platforms. These media sources play a vital role in impressing the children of different age groups, such as infants, school-aged children, and adolescents and tend to create a strong desire in their minds through colourful and pleasing visual representations to use the product. Skincare products, food choices, digital games, and movies are some of the predominant areas of attraction to children. Children are mainly tempted to try these skincare and food products since advertisements present them in a more appealing way and promises instant results of a rejuvenating, healthy and energetic mind and body. The racial stereotype is one of all the standard myths which have affected the society since decades all over the globe. We cannot deny the fact all forms of media have significantly contributed in focusing such beliefs again. Indian media and commercials also give lot of importance to fair skin tones (Sindhusree, 2018).

In today's world, television has become a significant part of children's lives. Youngsters watch television during most of their free time. They are exposed to advertisers' messages and are vulnerable to worldly advertising. Foods advertised when children are most likely to be watching are high in fat and sugar and low in fibre, with comparatively less nutrients. Fast foods, high-fat foods, high-sugar foods, and sugar-sweetened beverages are heavily advertised during prime-time programs that concentrate on all age groups, including adolescents. Healthy foods, such as fruits, vegetables, whole grains, milk, and low-fat items, are seldom publicised on television. Repeated exposure to high-calorie, low-nutrient foods may increase the desire for these foods. Children who view more commercial television programs make more requests for such food items (Ghimire N, 2013). Thus, the strong convincing nature of advertisements plays pivotal role in framing the opinion of people.

Moreover, online games, alcohol and the related advertisements bring a strong desire in the mind of children, including youth. Exposure to alcohol advertising contributes to an increase in underage drinking which ends up in issues related to alcohol consumption. Younger adolescents appear to be susceptible to the credible messages contained in alcohol commercials broadcast on TV, which typically leads to a positive reaction to the ads. Hence advertising has an impact on children's decisions and it appears harder for parents to advise them and make them aware about the risk involved (Grenard et al., 2013). Children are more likely to select the advertised item, despite parental efforts (Ferguson et al., 2011).

The youth acquire information concerning numerous products primarily from television and newspaper advertisements. Both of these being visual media, people have a tendency to believe more on these media. The majority of the youth make purchases after watching TV promotions as they get impressed by the product presentations and its features. As advertisement features the product information to the customers, it helps them to take better

decisions and to improve their standard of living. The advertising media has a great influence on the psychosocial development of youngsters, regarding which the physicians should create strong awareness in the minds of the parents about the wild exposure of their kids on media and to give proper guidance on its usage. Therefore, marketers need to design their advertisements in conformity with the buying behaviour of youth and their interests.

Different Types of Advertising and their Impact on Consumer Buying Behaviour

The level of consumer satisfaction depends upon the following factors (Williams,1991): Expectations from a product,

- a) Importance and worth of the product in consumption,
- b) Characteristics of the product, whether they are higher or worse than expected,
- c) The discrepancy between expectation and actual expertise of the product/service, and
- d) Performance of the product.

The impact of advertisement depends ultimately on various factors besides consumer satisfaction (Malik et al., 2014):

- 1) The rate at which new messages enter the social system through advertisements of various manufacturers;
- 2) The persuasive influence and the message contained in new stories through print, audio and television media;
- 3) The delay in influences overtime of existing advertisements;
- 4) The percentage of targeted cluster affected by the advertisement

Thus, advertising is an effective sales promotion strategy through which the quality, quantity and related descriptions of the products reach a large number of populations from any corner of the world. The existing mosaic supervision system is no longer enough to govern the advertising industry effectively due to its larger impact on society and the globalised industrial trends. The

increasing risks associated with advertising make it essential for consumers to be more aware of the product and its features. Besides this, most companies need to be defended from other rival corporate groups who compete with them regardless of consumer safety. Therefore, it is essential to formulate a codified legal framework to regulate advertising and its liabilities.

False and misleading advertisements can be broadly categorised into two. The first category classifies the advertisements which violate the consumer's right to information and choice, and the second category includes the violation of the consumer's right to safety.

The following are some examples of misleading advertisements:

- An edible oil advertisement assuring a healthy heart, free from heart diseases so long as it is used.
- An advertisement of a water purifier that removes only bacteria and falsely guaranteeing 100 percent safe water.
- A telecom service provider guaranteeing STD calls for 50 paise per minute deliberately concealing the material fact that the said offer is applicable only when calls are made to numbers serviced by the same provider.
- A manufacturer claiming that the refrigerator marketed by him is the best assuring fresh and germ-free food owes a duty towards his customer to justify the same.
- A manufacturer of detergent claiming to remove grease or any dirt in just one wash should be able to prove the same.
- A retailer offering special discount on his goods as part of a festival celebration, merely to get rid of damaged and outdated goods or old stocks.
- An advertisement by a toothpaste manufacturer claiming prevention of cavities and strong teeth unable to prove the same.
- Manufacturer of a face cream assuring the removal of dark spots on face and preventing their further occurrence failing to prove this.

- Presenting significant details about the product in small letters at the bottom of the advertisement deliberately with a view to hide it from the viewers.

When advertisers engage in misleading or false advertising, consumer choice is affected because consumers are unfairly convinced to believe in the messages of the advertisers, which affect their judgment. Misleading advertising either compels consumers to purchase items at a higher price or at a lesser quality than what they wanted, or to purchase the wrong product or service. Such advertisements violate the interests of consumers by suggesting that the product or service has unique qualities. They also manipulate consumers, thus making them more vulnerable and less likely to make rational choices.

To protect the consumers against such misleading advertisements and to ensure fair practice in business, the Consumer Protection Act, 2019 has brought in an effective and elaborate regulatory framework. The Act recognises six basic consumer rights namely:

1. Right to Safety- Consumers are the ultimate users and hence they have the right to be protected against the goods and services which are endorsed in such a way as to threaten their life and property. The right extends to areas of electrical appliances, healthcare, automobile, pharmaceuticals, housing, travel etc. Nowadays, each and every area has an office for researchers who introduce new products and appliances after proper research and evaluation. Most of these products are not tested by the producers which proves to be harmful to the consumer. Therefore, after the enforcement of this act, it is necessary for each sphere of production to get all their products which have potential danger to the life to be carefully tested and approved before launching it in the market.
2. Right to Information- It refers to the right of a consumer to be informed of the quality, quantity, potential, standard

and worth of the goods and services being sold by the shopkeeper. This right is given to the consumer in order to secure themselves from various unfair trade practices performed by the seller in order to earn more profits. Therefore, it is an obligation on the part of the seller to provide all relevant information regarding the product to the consumer.

3. **Right to Choose-** Right to choose is a right assured to consumers on any class of products and services at affordable rates. It is very common to find one product being sold at different possible prices by different sellers. This reflects the age of market rivalries who is found in almost all countries. Therefore, it is the right of all consumers to purchase any product at any price which satisfies his needs and desire. A consumer cannot be compelled to purchase a product of some particular brand or quality.
4. **Right to be heard-** This right is the assurance that consumers' interests will receive due attention at appropriate forums. This right was introduced for a consumer in order to ensure that all the complaints and issues of the consumers are heard duly by the appropriate authority. This is because of this right that almost all the large companies have a separate customer service department to help the consumers in case of any dispute or complaint regarding the quality or quantity of the product.
5. **Right to seek Redressal-** If any consumer has been manipulated by the seller or faced any unfair trade practices, he can seek redressal i.e., compensation or damages under this right. This right ensures that all the grievances of the consumers are dealt with and justice is done to him. A proper redressal mechanism has been set up by the government of India at District, State and National levels for this purpose.
6. **Right to Consumer Education-** It is the right of each and every person who is a citizen of India to have the knowledge and fair understanding of all the laws and

policies relating to consumer rights and interests.

Proactive Steps to Curb Misleading Advertisements

Under the new Act, advertisement means any audio or visual representations or publicity made with special effects and covers various electronic and print media. Advertisements tend to be misleading u/S. 2(28) of Consumer Protection Act, 2019 when they give false descriptions, guarantee, or intentionally conceal any material information or defects of the product being advertised.

The Central Consumer Protection Authority (CCPA) established under this Act is conferred with the power to issue proper directions and impose penalties against false and deceptive advertisements hence preventing them. If the Central Authority is satisfied after investigation that the advertisement is misleading or affects any basic rights of the consumers, it may by order direct the concerned marketer or endorser to discontinue the said advertisement or to modify the same as directed. The authority is empowered to monitor matters relating to consumer grievances, unfair trade practices and false or misleading advertisements, which are likely to deceive the consumers and to promote, protect and enforce their rights.

If an advertisement is found to be misleading or deceptive which tends to cause harm to the consumers, then the Central Authority may impose a penalty of up to Rs.10,00,000 (Rupees Ten Lakhs) on the manufacturer who deliberately cause the same to be false. In case of a subsequent offence, the fine may extend to Rs.50,00,000 (Rupees Fifty Lakhs).

The New Act has also made false and misleading advertisements a criminal offence i.e., if found guilty, they could be sentenced to imprisonment for a period not exceeding two years. In the case of a subsequent offence, the term of imprisonment may extend up to five years. Further, the Authority impose a penalty by taking into consideration the people, their vulnerability and the extent to which they are affected by misleading advertisements, and

the gross revenue from the sales effected on account of such offence.

Lately, the Central Authority regulating the consumer protection has issued show cause notices to 14 companies in different spheres such as water purifiers, disinfectants, floor cleaners, furniture, etc for making false claims with immunity boosters and covid-19 virus protection thereby deceiving the consumers through publishing fake and misleading advertisements.

In *Horlicks Limited v. Zydus Wellness Products Limited*, *Horlicks Limited* (“Horlicks”) approached the Delhi High Court, seeking a permanent injunction restraining *Zydus Wellness Products* (“Zydus”) from telecasting its advertisement, which showed that one glass of Complian (a Zydus Product) is equivalent to two glasses of Horlicks. The advertisement in contention was being telecast on multiple channels in English, Bengali and Tamil. Aggrieved by the advertisement, Horlicks approached the High Court on the ground that the advertisement was misleading and amounted to disparagement. The Court was of the opinion that a viewer or a customer who sees any advertisement of such a small duration could not be expected to read any sort of textual disclaimer given anywhere on the screen. Justice Mukta Gupta, the presiding Judge over the case, said that under such circumstances, any viewer viewing the commercial would be deceived and Horlicks (the plaintiff) would have to suffer an irredeemable loss. Thus, the High Court restrained the Zydus Company from airing its commercial in the current form till the time the lawsuit that was that was initially filed by Horlicks wasn’t disposed of.

Liability of endorsers under the Act of 2019

The endorsement in relation to an advertisement means any statement, demonstration or depiction of the name, signature, or such recognisable personal characteristics of an individual having high degree of trust, recognition and respect in society which greatly influence the consumers to believe the demonstrations publicized

by such endorsers. Ever since globalisation has ushered in the spate of consumerism, celebrities have become the pre-eminent choice for brands to target a relevant audience to promote their products. Quite often, we see that celebrities become the alter ego or personification of the brands they endorse. McCracken (1989) uses ‘meaning transfer perspective’ to describe the process through which the symbolic characteristics of the celebrity endorser move from the celebrity to the offering and then to the consumer. He states that celebrities have their own meaning as they have created this meaning in films, sports achievements or political campaigns in a given cultural environment that cannot be found elsewhere.

The Duff and Phelps celebrity Brand Valuation Report 2018 state that celebrity endorsements have increased nearly threefold in the last one decade. Consumer confidence and trust in their favourite celebrity, induce consumers to select those products or services. However, till the Act of 2019 was passed there was no comprehensive law to regulate or prohibit misleading celebrity endorsements.

The only regulation that existed prior to the Act was the self-regulatory code of Advertising Standards Council of India (ASCI). The Code required the celebrities to partake due diligence in the claims and statements of the product or service endorsed by them so as to ensure the veracity of their claims. However, the Code did not provide any statutory sanctions or penalties for any misleading or false claims advertised by the celebrities. To make celebrities accountable for their endorsements, the Consumer Protection Act, 2019, which has replaced the 1986 Act has specific and express provisions for fixing pecuniary and penal liability on celebrity endorsers.

As per Section 21 of the Act, the CCPA is empowered to order discontinuation or modification of a misleading or false endorsement which is prejudicial to the interest of the consumer or in contravention with the consumer rights. The Authority is also empowered to inflict appropriate penalty on the endorser of the deceptive advertisement and to

prohibit him from making further endorsement of any product or service for a specific period.

However, the endorser shall not be held liable if he has exercised due diligence in verifying the correctness of the claims mentioned in the advertisement regarding the product/service. This is a good defence available to the endorser or the promoter but the same shall be denied if he had previous knowledge about the claims made in the advertisement.

Interestingly, in 2016 there was a case in Kerala, which involved a high-profile brand ambassador, superstar Mammooty who found himself entangled in a legal trouble when a 67-year-old man approached the court alleging that he did not become fair as promised by the celebrity in the ad of Indulekha beauty soap. The complainant claimed Rs 50,000 as compensation, but the matter was settled out of the court by the company which agreed to pay Rs 30,000.

Recently, the District Consumer Redressal Forum, Thrissur ordered the makers of Dhathri hair oil brand and movie actor Anoop Menon, who promoted the product through advertisement to pay a compensation of Rs.10,000 each for making false promise “lush hair growth in six weeks”. Here the litigant, Francis Vadakkan alleged that he bought the hair cream for Rs.376 on seeing the advertisement and used it for seven consecutive weeks. However, there was no improvement and the actor further testified that he had never used the hair cream and has only used the oil prepared by his mother (Nanda S 2021).

The new provisions seem to drive up the price for celebrity endorsement contracts in future. It would ensure that companies and celebrities are more circumspect when it comes to the products/service they endorse and the claims they make.

Conclusion

Being a consumer is a quality that belongs to all citizens and in that sense, citizen rights as a consumer are human rights. The importance accorded to the consumer derives from the

fact that lack of protection of consumer rights paves the way for deception of man – consumer by his fellow man, manufacturer or trader is prejudicial to human dignity. Yet, consumers have long been at the receiving end of market manipulations and unfair trade. This is accentuated by the fact that there is a proliferation of products and services, in light of global supply chains, e-commerce and international trade as never before. The new markets had provided a wider range of access to consumers as well as exposed them to highly sophisticated and often covert unfair trade practices.

As opined by the Supreme Court of India, the Consumer Protection Act of 2019 Act has sought to address “the myriad and constantly emerging vulnerabilities of the consumers”. The recurring theme in the new legislation was the protection of consumers, which was sought to be strengthened by procedural interventions such as strengthening class actions and introducing mediation as an alternate forum of dispute resolution. The Act resonates with every major concern that an honest consumer may face. This may also be a warning signal to mischievous players indulging in unfair market practices. The burden of accountability and caution is now shifted to manufactures, sellers, and service provider, giving more power to consumers.

The advertisers or advertising agencies and endorsers have to work within the ambit of existing laws and cannot start a campaign which is false and if it has been started will have to be discontinued when contested. Hence, consumer researchers have to be very careful about the contents of advertisement and it should not contain any statement which is untrue or false. Nevertheless by increasing self-awareness alone, consumers will be able to behave in a way that is more consistent with their personal preferences. Hence rationality in decision-making and awareness of consumer rights is sine qua non for ensuring ethical consumerism.

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Role of NPA Provisions in Financial Soundness and Profitability: A study on Primary Co-operative Agricultural and Rural Development Banks in Kollam District, Kerala

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Abstract

Primary Co-operative Agricultural and Rural Development Banks (PCARDBs) means a society has an area of operation confined to a taluk and the principal object of which is to provide long-term credit for agricultural and rural development. One of the dangerous problems faced by co-operative banking is the inability of the borrower to repay their overdue interest and principal, leading to Non-performing Assets (NPA). The presence of NPA had an adverse effect on the profitability and existence of PCARDBs, but they are still surviving with the help of provisions created against NPA. Provisioning means the portion of income set aside by the bank to meet contingent losses that may arise in the event of non-recovery of loans. By analysing the data collected from the financial statements of the six PCARDBs in Kollam district, it can be understood that the growth in NPA involves the necessity of provisions which bring down the overall profitability of the bank. But if the banks are capable to create such provisions from net profit, it helps to maintain the financial soundness of banks. The study is based on the data collected from financial statements of six PCARDBs in Kollam District and the results show higher provisioning for overdue which results net loss in the financial statements of banks.

Keywords: co-operative banks, non-performing assets, provisions, Primary Co-operative Agricultural and Rural Development Banks.

Introduction

Co-operative banks are the financial entities organized by the members under the provisions of the co-operative societies act of the states united voluntarily to meet their short-term and medium term and long-term financial requirement (R.Gopakumaran Nair, N.J Shaji, 2019). They are registered under the Co-operative Societies Act, 1912 and they are regulated by RBI under the Banking Regulation Act, 1949 and the Banking Laws (Application to Co-operative Societies) Act, 1965(R. Gopakumaran Nair, N.J Shaji, 2019). A two-tier federal structure is prevailing in Kerala

state with State Co-operative Agriculture and Rural Development Bank at Apex level and Primary Agriculture and Rural Development Banks (PCARDBs) at grass root (taluk) level with the principal object to provide long term credit for agricultural and rural development (R.Gopakumaran Nair, N.J Shaji, 2019). These banks are only permitted to mobilize fixed deposits, and NABARD is the main source for finance and refinance. Presumptive value is the method of valuation adopted by PCARDBs in advancing long-term loans. Valuation is made up to four lakhs by the supervisor of the bank, four lakhs to eight lakhs by the Agricultural Officer and above eight lakhs by The Valuation

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Officer in the rank of Assistant Registrar from Co-operative department. One of the vital problems faced by co-operative banking is the default in the payment of principal or interest by the borrower, leading to Non-performing Assets (NPA). The profitability of the banking sector depends on the recovery of loans on time which are disbursed to different sectors (Kiran & Jones, 2016). The banks should give more emphasis on recovery measures since the recovered amount from these NPA accounts directly contribute to the total profit of the banks as it was already provisioned by the banks according to the banking norms (Vishnu & Selvanayaki, 2018). The growth rate of PCARDBs was reasonable and satisfactory in terms of total membership and there is a negative growth rate in case of recovery of loan (Raveesha et al., 2015). The provisions should be made on the basis of classification of assets based on the period for which the assets has remained non-performing or overdue as also the availability of security and its realisable value (Thapa & Malilni, 2016). The major findings of the study conducted by Mitra (2012) on NPA management of Urban Co-operative Banks includes the bank following conservative credit policy and the interference of politicians in the organisation, lack of professional management and also the

poor resource base are the major reasons of increase in NPA. If the bank has not enough provisions against NPA and they are able to recover from defaulters, which leads to rise in gross NPA and low shareholders risk ratio denotes that the bank has failed in making provisions against NPA (Mishra, 2017). Many researchers have tried to analyse the NPA and profitability of various banks, but studies focusing on NPA provisions of PCARDBs have not been conducted yet. Therefore, an attempt has been made through this paper to study the role of NPA provision in the financial soundness and profitability of PCARDBs in Kollam district, Kerala.

Asset classification

Performing assets (Yielding assets) – It includes standard assets and stressed assets and non-overdue accounts, plus accounts overdue but not classified under NPA.

Non-Performing Assets (Not Yielding/ Ceased to yield income) – Accounts in which interest and / principal installment remain unpaid for a period of over 90 days in other loans and 360 days in direct agriculture loans. NPA is further classified into three types based on the age of overdue and recoverability. Substandard asset, Doubtful asset and Loss asset.

Table 1: Classification of assets

Assets	Agricultural loan	Non- agricultural loan	Provisioning
Performing assets (standard and stressed)	Overdue above 360 days to six months	Overdue upto 90 days	0.25%
Sub standard	361 days – 36 months	91 days – 36 months	10%
DA 1	36 – 48 months	36 – 48 months	20%
DA 2	48 – 72 months	48 – 72 months	30%
DA 3	Above 72 months	Above 72 months	50%
Loss assets	Irrecoverable		100%

Source: Secondary data

(DA – Doubtful Assets)

$$NPA = \text{Substandard amount} + DA\ 1 + DA\ 2 + DA\ 3 + \text{Loss Asset}$$

$$\text{Gross NPA\%} = \frac{\text{Total Impaired Asset}}{\text{Total Loan Outstanding}} \times 100$$

Objectives of the study

- To analyse NPA provisions and profitability of PCARDBs in Kollam district, Kerala.
- To understand the role of NPA provisions

- in the financial soundness of the bank.
- To study the trends of gross NPA from March 2017 to March 2020.

applicable to any other type of cooperative banks.

Methodology

Limitations of the study

- The study is limited to the functions of six PCARDBs in Kollam District (Kerala).
- The study of Non-performing Assets and its provisions is done on the basis of loans and advances outstanding and interest due on loan of PCARDBs.
- The result of the study may not be

There are six PCARDBs in Kollam district. Secondary data relating to NPA and its provisions were collected from the financial statements of the six PCARDBs in Kollam District from March 2017 to March 2020 studied and tabulated for the study.

Analysis and Discussion

Role of NPA provisions in Financial Soundness and Profitability

Table 2
Analysis of Gross NPA (Amount in lakhs)

Particulars	Gross NPA			
	MARCH 2017	MARCH 2018	MARCH 2019	MARCH 2020
PCARDB Sasthamcotta	494.31	540.43	540.43	726.70
PCARDB Pathanapuram	210.65	163.20	185.19	265.44
PCARDB Kollam	536.42	585.28	726.80	864.68
PCARDB Punalur	263.06	303.01	363.92	533.40
PCARDB Kottarakkara	724.21	817.14	1002.96	425.22
PCARDB Karunagapally	410.59	420.48	421.68	476.26

Source: Financial statements of concerned banks

The table 2 shows the gross NPA of PCARDBs in Kollam district from the year 2017 to 2020 and it is clear that the Gross NPAs has been increasing year by year.

Analysis of NPA provisions and profitability (Amount in lakhs)

Table 3: *Sasthamcotta Primary Co-operative Agricultural and Rural Development Bank Q373*

Particulars	MARCH 2017	MARCH 2018	MARCH 2019	MARCH 2020
Loans and advances outstanding	8587.21	7937.79	7197.93	6749.52
Overdue loan	2747.84	2698.58	2163.76	2484.33
Provision for overdue loan	494.31	540.43	540.43	726.70
Interest due on loan	925.88	1034.91	1094.78	1190.47
Overdue interest	796.81	909.69	906.78	1095.08
Provision for overdue interest	796.81	909.69	906.78	1095.08
Net loss	717.00	854.22	845.95	1300.78

From the table 3 it is clear that the loans and advances outstanding is decreasing from 2017 to 2020. Net loss increasing year by year and full provision provided for overdue interest in the year 2020. The table reveals that the total provision (726.70 + 1095.08 = 1821.78 lakhs) is greater than the net loss in the year 2020, and the excess provision Rs. 521 lakhs indicate the financial soundness of the bank and it can achieve profit through the aggressive collection of overdue.

Table 4: *Pathanapuram Primary Co-operative Agricultural and Rural Development Bank Q995*

Particulars	MARCH 2017	MARCH 2018	MARCH 2019	MARCH 2020
Loans and advances outstanding	5993.75	6748.98	7661.40	8524.87
Overdue loan	408.05	310.40	339.05	457.30
Provision for overdue loan	210.65	163.20	185.19	265.44
Interest due on loan	436.99	370.19	377.19	516.92
Overdue interest	228.61	198.76	197.76	300.70
Provision for overdue interest	228.61	198.76	197.76	212.20
Net profit	1.59	1.23	4.42	1.86

The above table indicates that the loans and advances outstanding in 2020 increased as compared to previous years and a provision of Rs. 212.20 lakhs only have been created for overdue interest of Rs. 300.70 lakhs. If the bank will take this shortage in provision (Rs.88.50 lakhs) from the net profit of the year 2020, it will show a net loss in the corresponding year, which means the continued profit in financial statement not shows the actual financial soundness of the bank.

Table 5: *Kollam Primary Co-operative Agricultural and Rural Development Bank Q167*

Particulars	MARCH 2017	MARCH 2018	MARCH 2019	MARCH 2020
Loans and advances outstanding	9184.54	9918.42	9999.85	9430.58
Overdue loan	1102.08	1190.16	1385.58	1737.08
Provision for overdue loan	536.42	585.28	726.80	864.68
Interest due on loan	807.87	959.62	1196.44	1392.22
Overdue interest	488.99	772.93	1001.33	1185.58
Provision for overdue interest	488.99	772.93	613.06	917.51
Net loss	84.18	239.40	60.61	440.19

From the above table it is clear that the loans and advances outstanding is decreased in the year 2020 as compared to previous years. The table reveals that there is deficit in the provision for overdue interest (Rs. 268.07 lakhs) in 2020, if the bank adds this provision to net loss, it will increase the net loss to Rs. 708.26 lakhs which is less than the total provision and the bank can achieve profit through the aggressive collection of overdue.

Table 6 *Punalur Primary Co-operative Agricultural and Rural Development Bank Q1644*

Particulars	MARCH 2017	MARCH 2018	MARCH 2019	MARCH 2020
Loans and advances outstanding	7394.52	8099.24	8116.18	8272.21
Overdue loan	443.64	620.58	742.67	1268.34
Provision for overdue loan	263.06	303.01	363.92	533.40
Interest due on loan	692.88	701.22	738.85	1039.98
Overdue interest	407.10	417.79	463.44	631.46
Provision for overdue interest	362.08	417.79	417.79	631.46
Net Profit/Loss	4.72 (NP)	4.42 (NP)	2.67 (NP)	212.90 (NL)

The table shows an increasing tendency in loans and advances outstanding from 2017 to 2020. The bank created full provision for overdue interest in the year 2020 and showed a net loss after consecutive net profits in previous years. Total provision is greater than the net loss and which shows the financial soundness of the bank.

Table 7: Kottarakkara Primary Co-operative Agricultural and Rural Development Bank Q1511

Particulars	MARCH 2017	MARCH 2018	MARCH 2019	MARCH 2020
Loans and advances outstanding	14774.27	15330.46	15148.07	14512.47
Overdue loan	6057.34	6438.60	6704.67	7220.60
Provision for overdue loan	724.21	817.14	1002.96	425.22
Interest due on loan	1425.37	1729.41	2205.20	2439.01
Overdue interest	918.85	1338.75	1785.44	2164.98
Provision for overdue interest	918.85	1338.75	1078.54	1086.43
Net loss	238.46	496.07	221.95	1849.85

As compared to previous years, the table shows a decrease in loans and advances outstanding during the year 2020. There is a deficit in the provision for overdue interest (Rs. 1078.55 lakhs), and the total provision is less than the net loss in the year 2020. If the bank creates full provision, the loss will increase again. This bank is not in a good financial position due to ineffective financial management.

Table 8: Karunagappally Primary Co-operative Agricultural and Rural Development Bank Q467

Particulars	MARCH 2017	MARCH 2018	MARCH 2019	MAARCH 2020
Loans and advances outstanding	9760.51	9432.46	8887.47	8564.63
Overdue loan	2928.15	2947.64	3021.74	3168.91
Provision for overdue loan	410.59	420.48	421.68	476.26
Interest due on loan	557.40	610.23	650.51	714.70
Overdue interest	340.04	490.03	526.10	525.04
Provision for overdue interest	340.04	490.03	526.10	525.04
Net loss	206.89	218.63	182.56	178.76

The table 8 revealed that the amount of loans and advances outstanding were decreased from 2017 to 2020. The bank created full provision for overdue interest during the years. The total provision created is greater than the net loss, and it indicates the financial soundness of the bank, and it can achieve profit through the aggressive collection of overdue.

Conclusion

The money is locked up in Non-performing Assets, i.e., interest and principal are the main

source of the bank, and NPA is one of the most dangerous and important concepts of the banking system. If the NPA is not maintained properly, that is getting a serious effect on the profitability and existence of the bank.

Non-performing assets and the provisions of Primary Co-operative Agricultural and Rural Development Banks in Kollam District of Kerala are studied in detail for the given period of march 2017 to march 2020 on the basis of loans and advances outstanding and overdue loans to study gross NPA and

profitability of the banks. The above paper indicates that most of the PCARDBs in Kollam district are facing net loss due to NPA but they are still surviving with the help of provisions created for NPA. The existence of these banks is mainly rooted on the greater amount of provision created against NPA. If the bank fails to create adequate provision for NPA, it will lose financial soundness if it is in a position to earn net profit because the ultimate income of the bank is the interest.

Suggestions

The bank should maintain a proper recovery mechanism for the timely collection of overdue and for proper valuation and credit appraisal. Most of the PCARDBs are only focused on advancing loans. Alternative ways to increase profitability using miscellaneous income by the PCARDBs are effective fixed deposit mobilization and gold loan schemes and also earn income through rent by letting out the properties of bank.

Scope for further research

The study only focused on the relation between NPA provisions and the financial soundness of the bank and there is a scope for further on the basis of factors affecting NPA and its provisions in PCARDBs.

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Gati Shakti Multi-Modal Cargo Terminal- An Introduction to Indian Railways' New Initiative in Freight Operations

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Abstract

Indian Railways play a pivotal role in transporting goods along the length and breadth of India. Obviously, Indian Railways occupies a lion's share in the supply chain network nationwide. Private parties are allowed to construct their own terminals for loading freight onto goods trains. But, as per railway policy, they are required to bear the entire expenses for construction at the take-off point even if the land on which it is constructed is owned by railways. The private parties are also required to undertake the maintenance of such terminals. It becomes a cumbersome exercise for private parties both in financial and technical terms to run a private freight terminal. Recently, the prime minister announced a policy to bring together all infrastructure projects in a single frame. The railways have introduced the Gati Shakti Multi-Modal Terminal, whereby all the expenditures are borne by the railways and private parties are free from the burden of bearing the expenditure. Since the concept was introduced recently and is gaining popularity, an attempt to measure the outcome is too early. Nevertheless, this article throws light on the major aspects of the Gati Shakti Multi-Modal Terminal policy implemented by Indian Railways.

Keywords: Take Off Point, Rates Master Circular, Freight Operations Information System, Private Freight Terminal

Introduction:

Since 1990, the world economy has witnessed a widespread proliferation of liberalisation policy and advancement in the field of science and technology. Information technology and communication infrastructure sector developed in leaps and bounds which paved the way for transmitting messages and conversations at lightning speed. Obviously, competition among business entities gained momentum and attained pace within a short span of time.

In order to tide over the unsteady business environment incumbent with a large number of products with a few customers, commodity

suppliers and service providers needed to act on a real-time basis (D.K. Agarwal; 2017). Consequently, business entities were badly needed to have more systematized and integrated activities related to the movement and storage of goods so that they can be delivered to ultimate customers within a limited time frame.

The concept of Supply Chain Management emerged as a stalwart in meeting the requirements of ever-growing IT and marketing sectors. The concept of Supply Chain Management was to put into practice offering the best quality products at least price on a real-time basis and that too maintaining

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an adequate inventory level which will not lead to stock out situation.

The economic development of a nation depends upon the efficient system of transportation of both men and materials. From the point of procurement to the point of consumption, the materials need to be transported in a seamless manner. It, at any point, the chain of transportation is broken, the entire chain of supply gets hampered

(Bharadwaj, 2020). However, with the advent of effective channels of communication, artificial intelligence, information technology and trained manpower, the system of supply chain functions smoothly.

Traditionally the modes of transportation comprise of road, rail, air and sea routes. A table of comparison of different modes in terms of speed and economy is depicted below:

Table:1
Comparison of Modes of Transportation

Mode of Transportation	Speed	Capacity	Economy
Road	Average	Low	Moderate
Rail	Moderate	High	Cheap
Air	High	Low	Costly
Sea	Slow	Very high	Cheap

Source: Logistics Management; Satish C. Ailawadi, Rakesh P. Singh

It is obvious that for an average supplier, road and rail routes are the cheapest as far as capacity and speed are concerned. However, with skyrocketing fuel prices and increased carbon foot print, the dependence on roads as medium to transport has become a costly affair. On the other hand, transportation through the railroad is greener with usage of electric locos and high-capacity wagons. One fully loaded goods train can keep approximately 100 trucks off the roads. (Saruchera, 2017)

In fact, trucks loaded on flat cars in railway terminology known as Ro-Ro (roll on roll of) services help to attain economy in fuel and is popular in European Union (K.P. Sharma & Sanjiv Malhotra; Indian Railway Commercial Management & Rules). This is only one among the numerous advantages for the carriage of goods through railways.

Multi-modal transit hubs

It has been long since the business entities identified the process of coordinated operations of all modes of transportation. The results will be synergistic if all the modes coordinate their efforts. And also, as a panacea

to avoid competition among different modes, Supply Chain Management came into being. The strategy behind the SCM was to combine the services of different modes and attain economy in providing the commodity to the end user on a real-time basis (D.K. Agarwal; 2017). The points at which commodity is exchanged from one mode to another is called as multi-modal transit hubs. For instance, if a commodity arrives at Cochin harbour in a freight liner, the same can be taken to the nearest goods siding or loading point in trucks. From the goods siding, the commodity starts its journey in wagons to its final destination, which may be far away in a remote village in Tamil Nādu or farther.

Railway Terminal

In terms of freight handling, a railway terminal is an end station at which goods are loaded or unloaded and gathered together to be carried to the end user. It has become inevitable for railways to increase the efficiency of terminals owing to growth in freight traffic and competition from other logistics service providers.

Railways promoted the participation of

private entities in setting up warehouses and goods shed either on land owned by railways or private land. Terminal Development Scheme, Kisan Vision Project, Automobile & Ancillary Hub and Private Freight Terminal are a few examples of railways' neo-liberal policies. (K.P. Sharma & Sanjiv Malhotra; Indian Railway Commercial Management & Rules)

Types of railway terminals

Railway-owned Goods Sheds or railway siding on railway land-

These are the common goods sheds owned and operated by Indian Railways open to clients for carrying commodities wherein all the transactions are done and recorded by railway staff. Railways cherish all the rights to owning and operating such goods sheds or sidings.

Private sidings-

Private sidings are built on land owned by private parties or clients. Such sidings will be located within the manufacturing or mining area of the party concerned. Private sidings provide convenience for loading or unloading commodities within the premises under a special arrangement and approval from railways.

In order to augment freight carriage, railways, with the permission of the owner of private siding, allow the use of private sidings by parties other than the owner.

Privately owned container handling terminals-

Privately owned container handling terminals are also owned by private parties only difference is that such terminals deal with containers. The operations are done by Container Train Operators (CTOs) in accordance with the provision of the Master Concession Agreement.

Private freight terminals-

Private freight terminals are owned and operated by the terminal management company on land owned by private parties acquired through private investment. Such

terminals are operated in pursuance of PFT policy for handling of all types of traffic. (Concession Agreement)

Prime Minister's Gati Shakti Scheme

Prime Minister's Gati Shakti Scheme is an ambitious scheme chalked out to bring together all the infrastructure projects of various industries and state governments.

The scheme eyes at the improvement of connectivity among economic zones. Enhanced connectivity leads to better transportation and coordination among logistic service providers and businesses, which enhance the competitiveness of Indian industries.

In line with Prime Minister's Gati Shakti Scheme, railways introduced a new policy for its cargo terminals christened 'Gati Shakti Multi-Modal Cargo Terminal' (GCT).

Gati Shakti Multi-Modal Cargo Terminal

Gati Shakti Multi-Modal Cargo Terminals are introduced to promote the proliferation of new cargo terminals and to improve the facilities of existing terminals which will enhance the revenue from freight operations.

Gati Shakti Multi-Modal Cargo Terminals seek to cover all cargo terminals, whether new or under construction or those waiting for approval from the authority. This policy is liberal in nature since it provides an opportunity for existing cargo terminals to migrate to the new Gati Shakti Multi-Modal Cargo Terminal policy by submitting a request to Divisional Railway Manager, provided such terminals clear all pending dues and withdraw arbitrations if any.

Parties eligible to establish Gati Shakti Multi-Modal Cargo Terminal:

The following category of applicants are permitted to establish Gati Shakti Multi-Modal Cargo Terminal:

1. Individual or sole proprietorship firms
2. Hindu Undivided Family
3. Partnership firm
4. Company registered under Companies

- Act, 2013
- 5. Limited Liability Partnership
- 6. Registered society or trust and
- 7. Joint Venture or consortium.

Application and approval

Nodal Officer

Divisional Railway Manager shall be the nodal officer for all issues regarding the setting up and/or operations of a Gati Shakti Multi-Modal Cargo Terminal.

Coordinating Officer

During the approval and construction stage- Senior Divisional Operations Manager

After commissioning- The senior Divisional Commercial Manager

Capital cost:

The initial capital expenditure at the time of setting up shall be entirely borne by the Gati Shakti Multi-Modal Cargo Terminal Operator itself.

The expenditure related to setting up of common user traffic facilities¹ like tracks, signalling equipment, and wagons is to be borne by railways. The railway shall also bear the cost of maintenance of tracks and equipment. If the connectivity to the Gati Shakti Multi-Modal Cargo Terminal from the existing station is not feasible, the construction of new block or station can be considered.

Table:2
Bearing of Expenses between GCT and Railways

Nature of expenditure	Borne by
Initial capital expenditure	Gati Shakti Multi-Modal Cargo Terminal Operator
Work, ownership and cost of operations and maintenance	Indian Railways
Repayment of capital expenditure to Gati Shakti Multi-Modal Cargo Terminal Operator	If loading of 1 metric ton of goods is achieved within 2 years of establishment.

Source: FOIS Web portal 1.Facility available for common use for rail users without any discrimination including yards/additional lines/loop lines at the serving station, crossing station, patch doubling etc.

Security of assets:

The responsibility to upkeep the assets is described in the table below:

Table:3
Fixation of Responsibility as to Location of Assets

Location of assets	Responsibility
Over railway land	Indian Railways
Outside railway land and on land licensed to Gati Shakti Multi-Modal Cargo Terminal Operator	Gati Shakti Multi-Modal Cargo Terminal Operator

Source: FOIS Web portal

In adverse circumstances, if theft of assets happens in non-railway land or railway-owned land licensed to Gati Shakti Multi-Modal Cargo Terminal Operator, the loss shall be borne as follows:

Table:4
The bearing of Expenses Related to Restoration of Lost Assets

Restoration	Indian Railways
Expenditure for restoration	Gati Shakti Multi-Modal Cargo Terminal Operator

Source: FOIS Web portal

Maintenance of assets:

The assets, including tracks and signalling equipment installed on railway land but not land licensed to Gati Shakti Multi-Modal Cargo Terminal Operator, shall be maintained by railways at its own cost.

The overhead equipment (OHE) from the take-off point onwards shall be maintained by railways.

The Gati Shakti Multi-Modal Cargo Terminal Operator shall be responsible for the maintenance of all other infrastructure and equipment inside the Gati Shakti Multi-Modal Cargo Terminal, which are not used or accessed by railways’ rolling stock and also the infrastructure required for loading and unloading freight.

Cost of electrification:

- (1) New Gati Shakti Multi-Modal Cargo Terminal- The entire cost of electrification of the stretch of railway track between take-off point¹ and Gati Shakti Multi-Modal Cargo Terminal and also that of the premises shall be borne by the Gati Shakti Multi-Modal Cargo Terminal Operator.
- (2) Existing terminals- The railways shall bear the cost of electrification, including that of railway lines connecting the terminal.

Handling of wagons:

All equipment like tippers, and bulk handling systems used for loading and unloading of railway wagons shall be provided by Gati Shakti Multi-Modal Cargo Terminal Operator. Such equipment shall be commissioned provided they comply with specifications put forth by Research Designs & Standards Organisation.

Damage and deficiency charges shall be

slapped on Gati Shakti Multi-Modal Cargo Terminal Operator in case of any loss caused by way of damage, dents etc., to wagons from the side of Gati Shakti Multi-Modal Cargo Terminal Operator.

Maintenance of wagons:

Generally, maintenance facilities for wagons are not provided in the premises of the Gati Shakti Multi-Modal Cargo Terminal. However, circumstances demand so for the provision of maintenance facilities, it may be permitted. The expenses of which are to be borne by the Gati Shakti Multi-Modal Cargo Terminal Operator. But the operational cost for employing railway staff and costs related to the purchase of materials shall be borne by the railways.

Freight charges:

Freight transported from Gati Shakti Multi-Modal Cargo Terminal shall be charged at through distance¹ basis pertaining to the instructions laid down in Rates Master Circular w.e.f. 24th September 2014, subject to modification from time to time (Master Concession Agreement; Govt. of India, Ministry of Railways).

Engine on Load policy which is also modified from time to time, shall be applicable to the new Gati Shakti Multi-Modal Cargo Terminal.

Gati Shakti Multi-Modal Cargo Terminal Operator may forego Engine on Load policy subject to the approval of Divisional Railway Manager if the officer is satisfied that implementation of the same is not operationally feasible.

Provision of weighbridge:

It is required by all Gati Shakti Multi-Modal Cargo Terminals which have outward freight i.e., where goods are to be loaded onto wagons

to install Electronic In Motion Weighbridge (EIMWB). A Gati Shakti Multi-Modal Cargo Terminal without EIMWB may be allowed to operate by the Divisional Railway Manager. In such case, the Divisional Railway Manager in consultation with Chief Freight Transportation Manager may nominate an alternate railway weighbridge for a period of six months.

The Gati Shakti Multi-Modal Cargo Terminal Operator shall be liable to bear the cost related to procurement, installation, operation and annual maintenance contract.

The penalty shall be levied on Gati Shakti Multi-Modal Cargo Terminal Operator if a weighbridge goes out of service and not rectified within a period of three days. If it is found inevitable, the Divisional Railway Manager may permit a Gati Shakti Multi-Modal Cargo Terminal Operator to install EIMWB on land either partially or wholly owned by the railway.

Installation of Freight Operations Information System (FOIS) and Terminal Management System (TMS):

The Gati Shakti Multi-Modal Cargo Terminal Operator shall install FOIS and TMS with limited access as prescribed by the railway. The cost of installation shall be borne by Gati Shakti Multi-Modal Cargo Terminal Operator. Railway Receipts² related to freight loading will be made only through TMS. The

The approval process of Gati Shakti Multi-Modal Cargo Terminal Operator located entirely on non-railway land:

The standing committee to grant approval comprises of-

Table:5
Composition of Standing Committee

Chairman of the Committee	Divisional Railway Manager
Convenor	Senior Divisional Operating Manager Senior Divisional Commercial Manager and Senior Divisional Engineer/Coordination.
Members	Senior Divisional Electrical Engineer/Traction Distribution and Senior Divisional Signaling and Telecommunication Engineer.

Source: FOIS Web portal

maintenance of both FOIS and TMS shall be undertaken by railways.

Agreement, Dispute and Termination:

Agreement- The agreement related to the establishment of the Gati Shakti Multi-Modal Cargo Terminal shall be signed by Senior Divisional Commercial Manager, who is the authorised signatory. It will be signed before the formal issue of commercial notification and operations.

Resolution of disputes- Disputes, if any arising during the course of operations, shall be heard and decided by Divisional Railway Manager whose decisions shall be final and binding.

Arbitration- Arbitrary proceedings shall be done as per the permission of Railway Conditions of Contract, 2020 as amended from time to time.

Termination of Agreement- The agreement with Gati Shakti Multi-Modal Cargo Terminal Operator shall be terminated if any serious irregularity is committed by Gati Shakti Multi-Modal Cargo Terminal Operator, which includes the following:

1. A grave breach of the terms and conditions of the agreement
2. Violation of Railways Act, 1989 and
3. Commission of any unlawful act.

Submission of application:

Details regarding filing of application fees is given below in a tabular form.

Table:6
Details of Filing Application Fee

Mode of payment	Online or DD drawn in favour of Senior Divisional Finance Manager
Paid to	Divisional Railway Manager
Amount of application fee	INR 20,000/-
Nature of application fee	Non-refundable
Details to be furnished in the application form	1.Details of applicant- Name and designation 2.Concept plan-Location and sketch 3.Traffic projection- Commodities, expected volume and rakes, types of stocks

Source: FOIS Web portal

Submission of details of project and Engineering Scale Plan:

The applicant, on receipt of In-Principle Approval (IPA), the Gati Shakti Multi-Modal Cargo Terminal Operator shall submit details of the project and ESP to Divisional Railway Manager. The submission shall be done online. The details of the project shall consist of:

1. Details of the ownership of the land
2. Location and details of EIMWB if required
3. Details of the cargo handling mechanism inside the terminal
4. Standard layout chosen for the terminal
5. Alignment of connectivity line from take-off point to Gati Shakti Multi-Modal Cargo Terminal.

Post approval proceedings:

The applicant shall remit a security deposit of INR 10 lakhs. If the applicant is desirous of making any alterations in ESP, it shall be done only with the approval of Chief Engineer/ Planning and Development. Upon remitting the security deposit, the applicant shall be permitted to commence construction of the Gati Shakti Multi-Modal Cargo Terminal.

Once the construction work has been completed, the Divisional Railway Manager and Senior Divisional Operating Manager shall permit the preparation of and approve the Signaling Interlocking Plan and shall ensure that the processes are accomplished without any delay.

If the applicant fails to commence construction of the Gati Shakti Multi-Modal Cargo Terminal within six months or fails to complete the construction within a period of twenty-four months from the date of granting approval, the railways shall have the right to keep the approval in 'abeyance'.

Terminal charges:

Terminal charges¹ for each rake handled shall be levied on Gati Shakti Multi-Modal Cargo Terminal established on non-railway land. However, such terminal charges shall be reimbursed in future.

If the Gati Shakti Multi-Modal Cargo Terminal Operator happens to be the consignor and consignee of load, then no terminal charges shall be levied.

If the wagons operated are privately owned, then the Gati Shakti Multi-Modal Cargo Terminal Operator shall be freed from the payment of terminal charges.

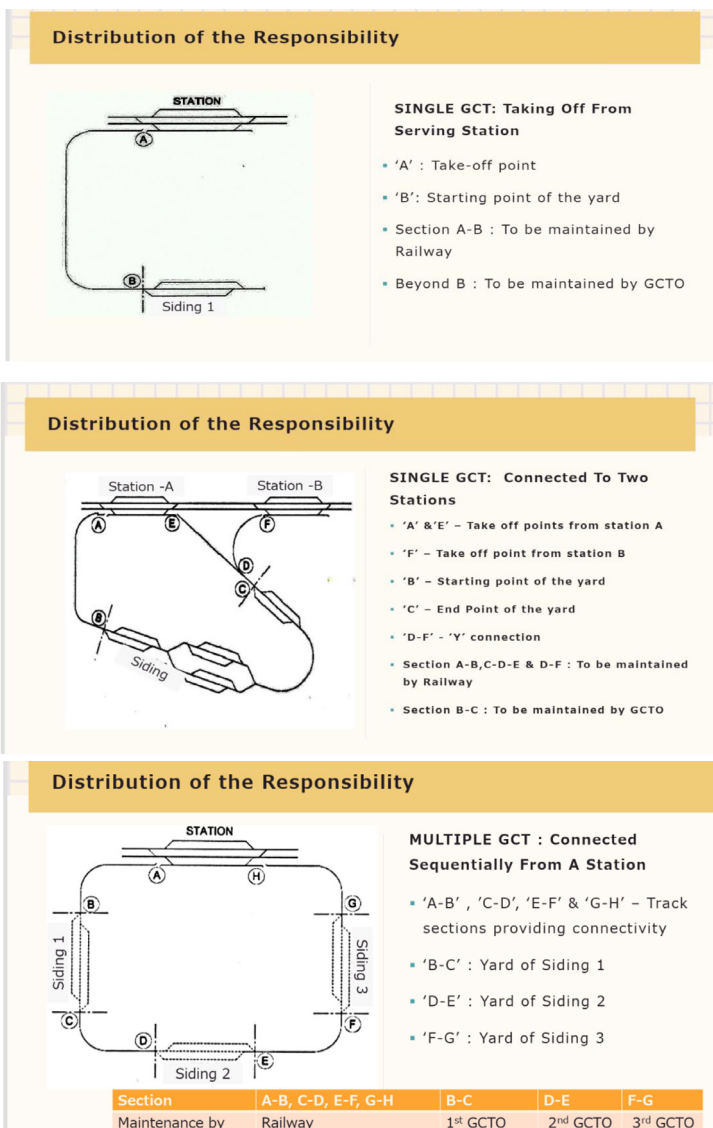


Figure 1 Source: FOIS Web Portal, Figure 2 Source: FOIS Web Portal, Figure 3 Source: FOIS Web Portal 1

Expected Outcomes of GCT:

Terminal operations are laborious tasks involving loading and unloading of freight, billing, weighing and dispatching of wagons. Moreover, the responsibilities of constructing and maintaining the terminals in the case of private freight terminals were solely placed upon private parties. With the implementation of the Gati Shakti Terminals, Private parties need not bother about installing equipment and assets, as the same will be done by the rail-

ways. Railways will undertake all the capital costs of common user facilities required for running the terminal. Moreover, the entire expenses incurred by the private parties on the building block section or dedicated track can get it reimbursed if the party plans to move more than 1 metric ton of freight annually.

The terminals under the scheme are expected to provide a single window operation wherein the freight dealers can meet their wants of transporting their cargo from rail to

road and from there to air or sea route. GCT operators are also open to establish facilities for value-added services like warehousing, processing, packaging etc. GCT have the potential to cater to the needs of the uniqueness of commodities being dealt like in the case of Petroleum Oil Lubricant (POL), milk and other perishable commodities and harvests of farmers which require its own equipment and machinery for procurement, storage and loading and unloading. GCT operators are required to maintain standards of services as the terminals are subject annual inspection by the railway administration. Consequently, the ultimate users are assured of quality products which meet their requirements.

Gati Shakti Multi-Modal Cargo Terminal will be a game changer in the near future as railways have recognised the need for customer-friendly operations, a green environment, protecting its customers from exploitation by road carriers and rising fuel prices.

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Influence of Stock Brokers on the Investment Decision of Individual Stock Investors

Aseem R.¹ and Biju S.K.²

Abstract

An investor is an important element of the stock market in any economy. In the past, stock investment was limited to the richer class, but in the present day, investment in the stock market is very popular among retail investors. Investment in the stock market is an excellent investment avenue. Many of the investors are non-professional and invest in the stock market based on some degree of recommendation received from others. Naturally, investors feel that they can make a profit from the stock market through professional guidance. Apart from buying and selling shares, the broker offers a range of additional services to investors, such as research reports, advisory services, and relationship managers. They also provide a wide range of products, including IPO, Debt, Mutual Fund, Futures, and Forward contracts, and insurance. Investors depend on the brokers for IPO information, market condition, awareness programs, and training for new investors. The investors received information related to financial services, portfolio selection and gainful information. Investors consider mage and reputation, speed of website and app, annual maintenance charge and initial investment for selecting brokers in the market.

Keywords: Equity Investment, Stock Market, Investment Decision, Stock Brokers, BSE, Individual Investors

Introduction

The financial system of every country encourages its growth and development. It offers a variety of financial assets/investments to the common public. The stock exchange of every country acts as the apex institution in the stock market. In India, the stock markets are regulated by the Securities and Exchange Board of India (SEBI). The Bombay Stock Exchange (BSE) and National Stock Exchange (NSE) are India's two major stock exchanges. Around 5230 companies with a market capitalisation of 26,527,044.57 crores as of 27th October 2021 (BSE, 2021a). The business of BSE is expanded to over 200 cities in India. Development of technology developed e-broking and e-trading, and this has attracted a large number of stock investors.

It is clear from the fact that 2,37.5 lakh Demat accounts were opened at National Securities Depository Limited (NSDL, 2021) and around 4,64,66,132 Demat accounts opened at Central Depository Services Limited (CDSL, 2021).

The first step of stock trading is to select a particular broker registered with exchanges. Several sub-brokers are working as the agent of main brokers in the stock market. A broker may be an organised institution, individual, or partnership. They managed investors with their trained employees. There are two types of brokers available in the market: full-service and discount brokers. Discount brokers provide only a platform for buying and selling security in the market. The full-service brokers provide additional services like research reports, advisory services,

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devoted relationship manager, 24x7 support to customers, training sessions for the clients etc. Every full-service broker allotted one employee called a relationship manager to all clients to ensure regular communication. The stockbrokers used sophisticated technologies for their business and network activities globally.

A stockbroker is a financial expert who places orders in the market on customers' behalf. Another name for a stockbroker is a registered representative. A stockbroker acts as a connecting link between investors and the market. It pools scarce resources from the investors for the benefit of companies in the market (Gordon & Natarajan, 2011). With the liberalisation of markets and financial deregulations, the scope of stockbrokers to deal in various markets has increased dramatically. The institutional setup of a stockbroker in India is growing rapidly. The role of stockbrokers is unique in the rapid development of the capital market (Desai, 2013). Thus stockbrokers act as the lifeline of the financial sector. There are 4664 registered brokers in India (BSE, 2021b). There are several stock brokers available in the market. So, it is crucial to select a particular stock broker based on the requirement of an investor. The full-service brokers provide recommendations to the investors. These recommendations were provided through e-mail, direct call, SMS, WhatsApp, application popup and the broker's website. It is essential that investors follow these recommendations before making investment decisions in the stock market. The present study covers the broker selection process of the investors and the broker's influence on investment decisions in the stock market.

Review of Literature

(Bodie & Crane, 2000) find out the behaviour of the investors while evaluating the advice received from the broker and media. The study also examined the influence of advice on investment decisions in the stock market. The study found that those investors who were better experienced in the stock market do not consider the broker's advice before investing in the stock market. If the investor's

age increases, the investor reduces the amount invested in the equity market. Age and amount invested in the equity market are inversely related. Young investors tend to invest more amount in the equity market. However, when aged investors are not interested in investing their amount into the equity market. Increases in age reduce the risk-taking capacity of individual investors. (Helm, 2007) argued that the corporate reputation determines the initial investment in the stock market. The investors analysed the company's reputation and decided based on the company's reputation. The investor's loyalty and satisfaction are based on the established investor's relationship. The study was conducted among the investors of Germany of a publicly-traded company. The study finds out that the diversity of loyalty affects a company's reputation. (Grinblatt & Keloharju, 2007) studied the investor's behaviour based on the past performance of the company. The study found that investors decided to buy and sell shares based on past returns and the company's performance. (Shanmugam & Muthusamy, 2001) evaluated the decision-making process of the individual investors in the stock market. The study evaluated the role of the individual investors in decision making, the investors' attitude, the investors' main objectives, and the effectiveness of their equity portfolio. The researcher formed three groups based on their nature: tax savers, traditionalists, and risk-taking investors. The collected data were analysed with the help of the Chi-square test and ANOVA. Most of the investors are salaried employees. Most of the investors are young and first-generation investors, so the time spent by the investor analysing the market is inadequate, and portfolio diversifications are moderate. The educational difference of the investors influences the use of fundamental and technical analysis.

(Madhumathi, 2005) studied the risk-taking capacity of the investors towards the investment decision in the stock market. The study finds that 78 per cent of the investors are risk-takers and consider the company's performance before making any investment decision. These investors are also considering the advice of

share brokers and financial consultants before making any investment decisions. The risk avoiders invest in the stock market based on advice from friends and families. (Raut & Das, 2015) Investors' decision-making ability is based on influences such as herding behaviour, imitation, and information cascades. The investors also move away from rational investment decisions by psychological factors like representatives, anchoring heuristics, and availability bias. (Jayanta, 2007) evaluated the BSE trading activity. In past decades, equity share trading has been a floor-based activity, and stockbrokers completed the transaction with the help of telephone or personal contact with the investors. The study also finds that comparing the past decades, the number of stock investors and stockbrokers increased drastically in the stock market. Many studies were conducted to determine the factors influencing the decision-making of individual investors in the stock market only. No specific studies were conducted on how the broker influences individual investors' investment decisions and what are the factors considered by the investors to select a particular broker in the market.

Statement of the Problem

In India, the household sector contributes 76 per cent of the total savings. Different investment alternatives are available in the market (Avadhani, 2014). Making an investment choice means buying and selling shares on the market (Bhalla, 2012). At present, investors mainly consider the advice of friends, relatives, brokers, etc., for their investment decision. Investors invest in the stock market through the help of stockbrokers. Many of the new investors are not professional, and they lack awareness of the performance or strategy in the stock market. So, they make a profit through advice from stockbrokers and financial advisors.

Many stock investors make short- or medium-term investments and are unwilling to wait for returns and withdraw money from the stock market, even if there is a small profit or loss. Brokers assist the investors in making wise stock market decisions. Stockbrokers

have an excellent understanding of the stock market's functioning, the latest information about the Indian stock market, and all the financial developments in the security market. Stock investors should seek guidance from experienced and reliable stock brokers. No one cannot predict the pattern of the individual investors in the stock market. With this background, the present study tries to analyse the dependency level of investors on the advice of stockbrokers for decision-making in the stock market and the attitude and behaviour of investors in selecting a particular broker in the market.

Objectives of the Study

1. To evaluate the various factors considered for the selection of stockbrokers by investors.
2. To study the influence of stockbrokers on the investment decision of individual stock investors.

The hypothesis of the study

H₀₁: There was no dependency by the investors on a stock broker in Decision making of Investment

H₀₂: There was no significant difference in the selection of brokers by the investors.

Research Methodology

The present study is descriptive and analytical based on both primary and secondary data. The primary data were collected from the equity stock investors in Kerala through a structured questionnaire. The secondary data were collected from various journals, books, thesis, reports, and the handbook of BSE & NSE. The present study is limited to the individuals who resided in Kerala and invested in financial assets for their purpose. In the case of individual investors in Kerala, the exact population figure cannot be determined, so an infinite population is considered for the study. Sample selected based on Judgemental sampling. Judgment criteria are those investors who invest in the stock market by opening an account with full-service brokers with less than five years of experience in the stock

market. Data were collected from 400 equity stock investors. Standard deviation, Mean, One sample t-test and Percentage were used to analyse the results of the study.

Analysis and Results

Socioeconomic Status of the Investors

Table 1 shows the details of respondents concerning gender, monthly income, age, occupation, and experience in investing in the stock market. Among the 400 respondents, 84 per cent of respondents were male, and

16 per cent of respondents were Female. Regarding the age category, 51 per cent of respondents were 26-35 years. Only 4 per cent of respondents were in the age category of above 55. Considering the occupation-wise classification, most of the respondents worked in the private sector (51 per cent). Around 31 per cent of respondents had a monthly income of Rs. 40,001-60,000. Considering the investors' experience, most of the respondents have 1 – 3 years of experience in the stock market.

Table 1
Socioeconomic Status of the Investors

Factors	Categories	Frequency	Percentage
Gender	Male	336	84%
	Female	64	16%
	Total	400	100%
Age	Below 25 Years	52	13%
	26 – 35 Years	204	51%
	36 – 45 Years	104	26%
	46 – 55 Years	24	6%
	Above 55	16	4%
Occupation	Total	400	100%
	Private Employee	202	50.5%
	Government Employee	44	11%
	Own Business	114	28.5%
	Profession	24	6%
	Retired	16	4%
	Total	400	100%
Monthly Income	Below 20,000	46	11.5%
	20,000 – 40,000	110	27.5%
	40,001 – 60,000	124	31%
	60,001 – 80,000	68	17%
	Above 80,000	52	13%
Experience in Trading	Total	400	100%
	Up to 1 Year	96	24%
	1 to 3 Year	196	49%
	3 to 5 Year	108	27%
	Total	400	100%

*Source: Primary data

Frequency of Investment

Investors are classified based on the frequency of investment. Among 400 respondents, most of the respondents invested irregularly (53 per cent), and only 39 per cent of respondents were monthly invested in the stock market.

Table 2
Frequency of Investment

Frequency	Frequency	Percentage
Daily	16	4.0
Weekly	12	3.0
Monthly	155	38.8
Quarterly	4	1.0
Irregularly	213	53.3
Total	400	100

*Source: Primary data

Dependence on Stock Brokers

Investors depend on stockbrokers not only for buying and selling securities. Many stockbrokers provide additional facilities like research reports, stock recommendations, investor education, etc. All the factors were analysed on a five-point scale as follows;

Strongly disagree 0-1, Disagree 1-2, Moderately agree 2-3, Agree 3-4, and Strongly agree 4-5.

Mean values were used for the analysis and interpretations of the data.

Analysis results showed that most of the investors were dependent on the brokers for IPO information ($\bar{x}=3.57$), followed by Market condition ($\bar{x}=3.20$), Awareness program ($\bar{x}=3.11$), and training for new investors ($\bar{x}=3.03$). The investors least depend on the brokers for the identification of sectors ($\bar{x}=1.35$).

The results indicated that most respondents depend on brokers for IPO information, market condition, awareness programs, and training for new investors but the least depend on the brokers for the identification of sectors.

The one-sample t-test results indicated that there was significant variation in the opinion of respondents with regard to dependence on stockbrokers for selection of stocks, identification of sectors, market condition, awareness program, research report, buy, sell and hold stock, technical & fundamental information, IPO information and training to new investors ($p<0.05$). Hence the null hypothesis stands rejected at a 1 per cent significance level.

Table 3
Dependence on Stock Broker

Variables	Mean	SD	t-value	Sig.
Selection of stocks	2.66	1.040	3.787	<0.001**
Identification of sectors	1.35	0.860	7.201	<0.001**
Market condition	3.20	1.387	34.615	<0.001**
Awareness program	3.11	1.199	7.321	<0.001**
Research Report	2.83	0.830	-1.234	<0.001**
Buy, sell and hold stock	2.25	0.302	4.979	<0.001**
Technical & Fundamental information	2.75	1.137	-7.984	<0.001**
IPO information	3.57	0.199	26.111	<0.001**
Training new investors	3.03	0.599	25.091	<0.001**

Source: Primary data

** Significant at 1% level

Services Provided by the Stock Brokers

The stockbroker gives many services to investors. This service includes Gainful information, profitable diversification, minimising loss, etc. All the factors were analysed on a five-point scale as follows;

Strongly disagree 0-1, Disagree 1-2, Moderately agree 2-3, Agree 3-4, and Strongly agree 4-5.

Mean values were used for the analysis and interpretations of the data.

The analysis results showed that most of the investors agreed that they received information related to Profitable diversification (\bar{x} =3.07), Gainful information (\bar{x} =3.31), financial services (\bar{x} =3.19), and Appreciable portfolio

selection (\bar{x} =3.18).

The results indicated that most of the respondents received information related to Gainful information, Appreciable portfolio selection, and financial services from a stockbroker.

The one-sample t-test results indicated that there was significant variation in the opinion of respondents with regard to services provided by the stock broker related to gainful information, profitable diversification, minimise loss, meaningful risk-return association, financial advice and financial services ($p < 0.05$). However, there was no significant difference in the opinion of respondents related to appreciable portfolio selection ($p > 0.05$).

Table 4
Services Provided by the Stock Brokers

Variables	Mean	SD	t-value	Sig.
Gainful information	3.31	0.84	54.122	<0.001**
Profitable diversification	3.07	0.76	23.434	.0214*
Minimise Loss	2.05	0.81	33.158	<0.001**
Meaningful risk-return association	2.01	0.56	32.586	<0.001**
Appreciable portfolio selection	3.18	0.61	32.559	.963
Financial advice	2.02	0.73	56.818	<0.001**
Financial services	3.19	0.64	14.499	<0.001**

Source: Primary data ** Significant at 1% level * Significant at 5% level

Selection of Stock Broker

Investors select a particular broker after considering many factors such as Experience, Image and Reputation, Recommendation from friends, Nearest to home or office, Speed of Application or website, Annual maintenance charge, advertisement, and Initial investment. All the factors were analysed on a five-point scale as follows;

Strongly disagree 0-1, Disagree 1-2, Moderately agree 2-3, Agree 3-4, and Strongly agree 4-5.

Mean values were used for the analysis and interpretations of the data.

Analysis showed that most of the investors select a particular broker based on image and reputation (\bar{x} =4.81), followed by speed of website and App (\bar{x} =4.75), Annual maintenance charge (\bar{x} =4.24), and Initial investment (\bar{x} =4.22). However, the respondents did not consider Advertisement (\bar{x} =1.21) for selecting stock brokers in the market.

The results indicated that most respondents considered image and reputation, speed of website and app, annual maintenance charge and initial investment but did not consider the broker's advertisement for a broker in the market.

The one-sample t-test results indicated that there was significant variation in the opinion of respondents with regard to the selection of stockbrokers in relation to experience, image and reputation, a recommendation

from friends, nearest to home or office, speed of website and app, advertisement, annual maintenance charge and initial investment ($p < 0.05$). Hence the null hypothesis stands rejected at a 1 per cent significance level.

Table 5
Selection of Stock Broker

Variables	Mean	SD	t-value	Sig.
Experience	3.70	1.97	-6.088	<0.001**
Image and Reputation	4.81	0.5610	171.489	<0.001**
Recommendation from friends	3.99	0.996	19.876	<0.001**
Nearest to home or office	3.37	1.1902	73.431	<0.001**
Speed of website and App	4.75	0.5664	169.493	<0.001**
Advertisement	1.21	1.014	4.141	<0.001**
Annual maintenance charge	4.24	0.908	27.313	<0.001**
Initial investment	4.22	0.997	24.472	<0.001**

Source: Primary data ** Significant at 1% level

Findings

1. Most of the investors are male.
2. The majority of the respondents were in the age category of 26-35 years.
3. Most of the respondents worked in the private sector.
4. The majority of the respondents had a monthly income of Rs. 40,001-60,000.
5. Most of the respondents have 1 – 3 years of experience in the stock market.
6. Most of the respondents invested irregularly in the stock market.
7. The majority of the respondents depend on brokers for IPO information, market condition, awareness programs, and training for new investors but the least depend on the brokers for the identification of sectors.
8. Most of the respondents received information related to Gainful information, Appreciable portfolio selection, and financial services from a stockbroker.

9. Most respondents considered image and reputation, speed of website and app, annual maintenance charge and initial investment but did not consider the broker’s advertisement for a broker in the market.

Conclusion

The study provides direction to all stockbroking organisations and investment advisory firms to understand the behaviour of individual equity investors. The study helps the stock investor to select a particular broker and understand the functioning of a broker in the stock market.

Investors easily recognise how they can depend on the broker for future decision-making in the stock market. The study would help the stockbroker understand individual investors’ expectations and behaviour. The result of the study will help the small and middle-level brokers because they do not have enough money to spend to conduct this kind of research. For them, this study will be helpful in understanding the attitude and behaviour of the equity investors and the purpose for what

they depend on the stockbrokers, which leads to improving the service quality of brokers. The present study will also help new investors in the equity market to evaluate the functioning of brokers and invest safely in the market.

Scope for further research

The present study focused on the influence of brokers on investment decisions in the market. The investors required proper assistance from the broker for investment decisions. Future research studies can consider the influence of brokers in the Derivative market and Forex market. On the other hand, study the effectiveness of the communication system used by the stock brokers in the market or conduct a comparative study on the performance of full-service brokers with a discount broker.

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Online Food Delivery- A Solution for Upsurging Restaurant Business

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Abstract

The Online Food Delivery Service offered by third-party food delivery companies has played an inevitable role in the growth and revenue of the restaurant food business. Through this service, along with serving foods to dine-in consumers, the restaurants can earn income by delivering food to customers at their doorstep. Under this study, the major objectives are to describe the evolution and background of online food delivery service and to examine the chief reasons behind the preference of online food delivery business by restaurants. The study concluded that the restaurants choose online food delivery businesses of third-party food delivery companies as a solution for several problems which they have faced while doing their business. There is a reduction in the number of dine-in customers, reduction in revenue and profit, limited seating capacity, lack of popularity, limited marketing space for doing business and the absence of new business opportunities. The study also illustrates major innovations that took place in the space of the food delivery segment, which includes the Restaurant to Consumer Model, Platform to Consumer Model and Full Stack Model of Food Delivery.

Keywords: Online Food Delivery Service, Restaurant, Consumer, Third-party Food Delivery Companies, Food Delivery Models, Public Dining Room, Fine Dining Restaurants

Introduction

Food plays an important position in the life of people and is an essential element required for everyone to survive. With the increasing change in trend and fashion in today's world, food has become one of the major components used to define one's lifestyle and standards. It keeps the wolf from the door and thereby saves people from hunger. In today's world, deciding what to eat is an essential part of a person's daily routine.

During the period of digital transmission, industries started to gain the advantage of

technology, and as a result, the volume of job opportunities has recorded a substantial jump. (Singh, 2018) A large number of people have begun to leave their homes for work in other cities, and it forced them to depend on restaurants for food. Thereafter, there emerged multiple food joints, cafes and restaurants established in each and every city to offer a variety of dishes to their customers. After several years, with the increase in population, it is realised that the earnings of a single person in a particular family can't satisfy the complete needs of the remaining members of the family

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and therefore, women had to come ahead in the workplace for providing financial support to their lineage. This situation made cooking at home really a challenge and indeed, it increased the footprints in restaurants.

When the number of customers at restaurants is abundant, it becomes the responsibility of restaurants to provide convenience as well as effortless service and gratification to their customers. To satisfy that demand, restaurants adopted digital technologies and started the business of online food delivery. It bridges the gap between restaurants and consumers. (Shankar, 2022). The service helps to scale down the hassles faced by customers and restaurants in this hectic world and opens a way to afford a large volume of customers through offline and online modes. It helps restaurants to optimize and control over their restaurants. From the management point of view, the manager gets the ability to control restaurants by having all the reports on hand. This service helps the restaurants to do all functionalities more accurately and in a faster way (Manju, 2019). Online food delivery business can lead to the growth of restaurant business from time to time. (Leong, 2016)

According to Eastern Daylight Time, 2021, in India, online food delivery service is going through a revolutionary phase. This market has shown huge prospects and attracted large investments in recent years (L Charlene, 2020). According to the report titled 'Digital Platforms Reign in the Food Ordering Market' published by Market Research Future, a Business Consultancy Firm, the Indian online food ordering market is slated to grow at a compound annual growth rate of 16.2 per cent at dollar 17.02 billion by 2023.

Worldwide online food delivery is becoming increasingly well accepted and embraced by young adults and nowhere this trend is more evident than in China. A survey conducted in 2019 with 1000 university students in Nanjing revealed that at least 71.45 per cent of them had used online food delivery for at least two years and 85.1 percent of them use online food delivery for buying restaurant food more than once a week. (Miroso, 2020)

Statement of the problem

From the very beginning of the 20th century, with the increasing cost of living, it had been an economic necessity for many women to work in order to support their families. Long working hours and intense competition in the workplace put both men and women under pressure and it makes cooking really a difficult task. Therefore they largely depended on restaurants for their food requirements. But the problem is that managing a large number of customers at restaurants is a very complex and time-consuming activity. Besides this, in order to accommodate the increased number of working populace, the restaurant owners need to spend huge amounts of capital outlay. Inefficient management systems and restricted marketing space for restaurants also limit the scope of restaurants from accommodating substantial footprints.

The online food delivery business broke its ice in the midst of the 20th century when a technological disruption took place in the restaurant industry across the world. The business was developed to make the restaurant industry more profitable by addressing these shortcomings. With the help of online food delivery services, the restaurants can amplify the number of footprints and, at the same time, can help to reduce the increased workload of employees. It can save extra costs associated with land and high rentals and can accommodate a high volume of customers without much modifications, such as creating further infrastructure facilities and seating capacities. It also provides an opportunity to get along with the restaurants through apps and websites.

Significance of the Study

Online food delivery is a service that acts as a chain connected with various restaurants and a wide variety of food items. With the help of this service, users can choose a restaurant of their choice and can go through all the food items which the restaurants provide. Then they can select foods and have to proceed to payment. The food is being delivered by executives of popular delivery entities who leave their brands with an everlasting

impression of convenience, efficiency and ease of use to the customers. By switching to the modern technological approach, the restaurateurs are actually free from the burden of inventing capital or huge amounts of money for guest sitting and arrangements, and they are also free from the burden of providing infrastructure facilities to the customers in restaurants. Small-sized restaurants having limited seating capacity can really enjoy the service of food delivery which helps them to retain their customers and increase the sales volume of business.

Objectives of the Study

İ% To study the background of online food delivery service.

İ% To study major innovations that took place in the food delivery segment.

İ% To analyse major reasons for the preference of online food delivery services (Zomato) by the restaurants.

Research Methodology

The study is both descriptive and analytical in nature. Both primary and secondary data were used in this study. Primary data were collected through scheduled questionnaires and the samples were selected from the population based on randomness. The size of the population is 500 (Total number of restaurants which use the services of online food delivery offered by Zomato). The scope of the study is confirmed to Thiruvananthapuram district and 100 restaurants which use the online food delivery service of Zomato were selected as samples from the population. Secondary data were collected from journals, articles and websites.

Restaurants

Restaurants or eateries are businesses that prepare and serve food and drinks to customers (*Santornichicago.com*). These are a form of establishments where refreshment or meal may be procured by the public and hence it is called Public Dining Rooms (PDRs). The word restaurant comes from the French verb

‘restaurer’, which means ‘to restore’ or ‘to refresh’ (Hotel, 2017). According to the English Oxford Dictionary, Restaurant is a place where people pay to sit and eat meals that are cooked and served on the premises.

Evolution of Restaurants

The concept of dining out had conquered the minds of people worldwide before the 80s with the introduction of inns, taverns and street kitchens. But the idea of modern restaurants where people can come in and sit, order items or dishes they want from the menu list and eat and pay for the services is considered a new invention which came into existence at the end of 18th century in France. Thus in 1765, a soup salesman named Boulanger opened the first modern restaurant in Paris, dealing with rich broths capable of restoring one’s health. His company motto was ‘Venite ad me Omnes Qui Stomacholaboratis et egovos restaurabo,’ which translates as ‘come to me all who suffer from stomach pain, and I will restore you.’ (Merriam Webster, n.d).

The Fine Dining Restaurants (FDRs) originated after the French Revolution, where the chefs who used to cook for the elite class became jobless because of the fall of aristocracy. Thereupon, the problem of unemployment on the part of chefs caused several issues and thus, they started to open restaurants by themselves to cater to the needs of wealthy people consisting of the working class. They developed a royal dining experience in which the main focus was on wealthy people and this was the beginning of a new model that we call today as Fine Dining Restaurants. The changes in human life followed by war created the need for restaurant ancestors to develop innovative restaurant models and thereby shape the industry as one of the world’s biggest industries today.

Online Food Delivery Service (OFDS)

Online Food Delivery Service is a form of courier service in which customers order food from a restaurant, hotel or an independent food delivery company and they deliver food to them wherever they want. In this service, customers

can typically make an order either through a website or a specially designed food delivery app and then the food is delivered to them to their declared location. The items are typically delivered in boxes or bags by using bikes and motorized scooters.

Background of Online Food Delivery Service

The concept of food delivery was actually born in the year 1889 in Italy, where the king Humberto and queen Margherita demanded to have pizza delivered to them. It was delivered by their chef on the basis of their needs and tastes. After that, the service was followed by common people in that country (Tech, 2021).

Later, in 1890, while under British Rule, there was a system called Dabbawala Meal Delivery System (DMDS), which was developed by India in busy metropolitan areas such as Mumbai for Direct delivery of lunch or meals to people at their place of work. This system has purely relied on delivery men called Dabbawalas since they formed as a group for the successful operations of food delivery and controlled the entire aspects of the food delivery service. Eventually, the service was expanded to more regions within and outside India.

In the midst of the 19th century, which was characterized by World War II in London, in order to ensure the wellness of people, the government enlisted chefs and volunteers to deliver meals. Even after the war, this service continued to help people to get back on their feet. Subsequently, this idea has become so popular and it quickly diffused to other nations like the United States and Australia.

After this, with the introduction of television during the 90s, people were more likely to stay home and enjoy meals together while watching their favourite shows. As a result, restaurants were seeing a steady decline in their sales. In order to combat their declining trade, many restaurants introduced takeaway options. In the same year, in response to a deep economic decline, Doris Taylor, a member of the British Empire looked for the disadvantaged and home-bound by providing hot meals. Thus August 9, 1954 was a red-letter day for them in which the volunteers consisting of 11

members delivered the first meals to 8 recipients. Over the years, meals on wheels have grown to thousands of volunteers and many countries have followed this model of food delivery. During 1960, the concept of a food truck, formerly nicknamed as 'Roach Coaches' began as a way to provide convenient meals and snacks to workers on their job sites. Due to much lower start-up costs, opening a food truck is an excellent way for aspiring restaurant owners to get started.

In 2004 the food delivery sector was captured by new players or food delivery companies. They provide logistical services both for restaurants and customers. As a result, restaurants that may have previously offered to dine-in or take-out options by themselves can now deliver foods directly to the customer's home or office through food delivery platforms. The concept of food delivery by restaurants was not much popular in earlier times because of the absence of digital networks. During the non-digital era, customers mostly preferred the purchase of food items whatever they wanted from restaurants. It requires too much time and the customer has to bear travelling expenses by themselves along with the food costs. Above all, the physical presence of the customer is the first and foremost factor which is essential in this traditional model. After the invention of mobile phones, it was possible to order food through phone calls and it minimized the role of customers as compared to the traditional model of food delivery.

The introduction of the internet in the 90s penetrated the restaurant sector and brought forth several innovations. The restaurant sector has made a huge change in which restaurants have started to focus more on food delivery than food serving. By switching to the modern technology equipped with high-speed internet and usage of smartphones, online food ordering began overtaking phone ordering and the food service industry has seen the advent of online food delivery services. It provides cost-effective services to customers and also helps the restaurants to increase their sales from lower levels. Now, people across the globe are enjoying a new comfort zone because of

technically developed online food delivery services.

Innovations in Food Delivery Services

With the huge advent of young professionals, including both men and women, into cities, the online food delivery sector has shown a green signal towards growth. Depending upon the nature and process involved, the food delivery services are classified as Restaurant to Consumer Model (R2C), Platform to Consumer Model (P2C), Full-Stack Food Delivery Model (FSFD) and Dabbawala System.

Restaurant to Consumer Model of Food Delivery

In the Restaurant to Consumer Model (R2C) of food delivery, restaurants started out serving food via their own locations. Food is delivered through direct contact between restaurant partners and customers. This type of food delivery business does not work with any of the third parties of the kind of food delivery companies. Instead, they have their own cooks and networks to prepare everything in restaurants and then deliver it to customers. The most famous examples of restaurant-to-consumer food delivery models include the likes of McDonalds, Burger King and Domino's.

Platform to Consumer Model of Food Delivery

Platform to Consumer Model (P2C) of food delivery is an impoverishment of the Restaurant to Consumer Model. In this model, food is normally delivered through applications and websites developed by third parties or delivery companies which list out the names of restaurants close to the customers' proximity. It is purely an order-focused food delivery model where customers can order food from restaurants through these apps or websites and the food being delivered by the driver of the platform. This model acts as a mediator between customers and local restaurants, offering access to various cuisines through a single website or smartphone application. Using applications, people can check out menus

and compare prices, see restaurant reviews and ratings and can place orders. For restaurants, partnerships with this type of platform can be beneficial, allowing them to offer convenient delivery without having to worry about paying drivers, tracking their movements and covering the costs of vehicle maintenance. Restaurants can instead focus on more important things, such as improving their services.

Platform to Consumer Model of food delivery is the modernisation of the restaurant-to-consumer model because instead of delivering food directly by restaurants, here the food delivery platforms make partnerships with the restaurants and thereby carry out the services of food delivery to the customers. They developed their own apps and websites and thereby connected people with restaurants. The first platform for consumer food delivery service began across the globe in 1995 in the United States as a worldwide waiter and still operates today as waiter.com. Major platforms for consumer food delivery services in the State of Kerala are Swiggy and Zomato.

Full-Stack Model of Food Delivery

This type of food delivery business focuses mainly on mere delivery service. It does not allow customers to dine in at the restaurant as it is established mainly for delivering foods to the customers. These types of businesses are commonly called virtual restaurants, ghost kitchens or cloud kitchens. As a delivery-only model, it requires massive funds for its operation. But once it comes up to a certain level, then it can get on with the food delivery business. Delivery of homemade foods through online platforms also comes under the purview of the full stack model. Under this model, major control regarding the food experience of customers, from ingredients, hygiene, and packaging up to its pick up is held with the hands of food stack players. Fixing up delivery fees and adding up special features are left in the hands of full stack players or partners.

Dabbawala System

Dabbawala System, also called Tiffin Box Delivery System, is a form of food delivery and return service which offers hot and fresh meals to people who are in need. The service is mainly focused on home-cooked lunches, especially at noon. In this model of food delivery, the delivery boys called Dabbawalas picked up ‘dabbas’ in the late morning and delivered them to customers by using bicycles or railway services and returned the empty container in the afternoon. The term Dabbawala is derived from the two Persian words Dabba refers to a container that is made up of aluminium or cylindrical tin, and Wala means the rider or carrier of the Dabba. In the late 1800s, an increasing number of migrants were migrating to various parts of the country, and fast food and canteens were not widely available. These migrants are from other communities, and as a result, their tastes also differed, which could only be satisfied by their own home-cooked

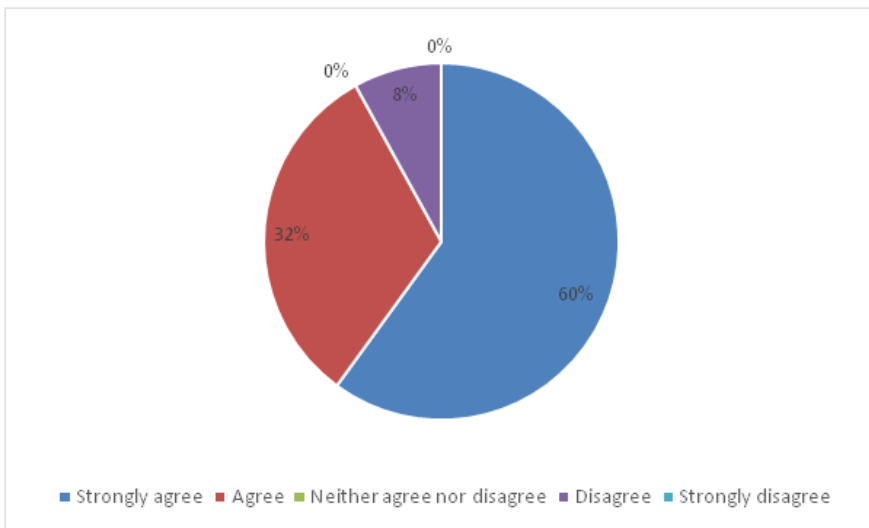
meals.

In this context, a Parsi banker named Mahadeo HavajiBachcheinitiated a lunch delivery service in Bombay in the year 1890 with about a hundred men. This proved to be successful, and the service grew from there. In 1930, he informally attempted to unionize the Dabbawalas. Later, a charitable trust was registered in 1956 under the name of Nutan Tiffin Box Suppliers Trust. The commercial arm of this trust was registered in 1968 as Mumbai Tiffin Box Suppliers Association.

Reasons to Prefer Online Food Delivery Service by Restaurants

As a solution to various problems faced by restaurateurs, they choose Online Food Delivery Service along with their existing restaurant business. Here are various reasons for which the restaurants in Thiruvananthapuram district prefer online food delivery services.

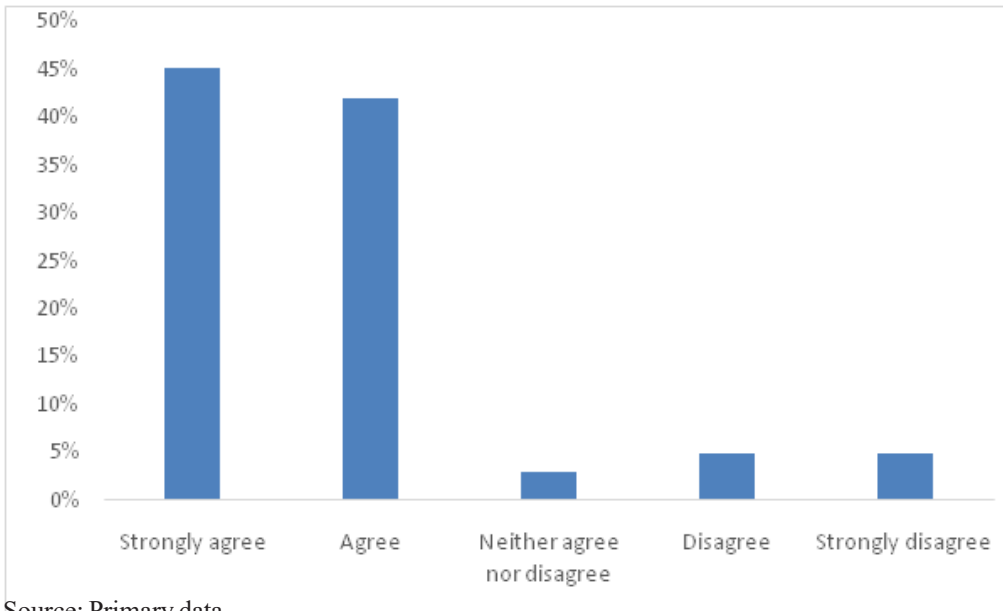
Figure 1 - Reduction in the number of dine-in customers



Source: Primary Data

Figure 1 shows that a reduction in the number of dine-in customers is one of the major reasons behind the adoption of online food delivery services in restaurants. A large portion of restaurants agrees with this point strongly.

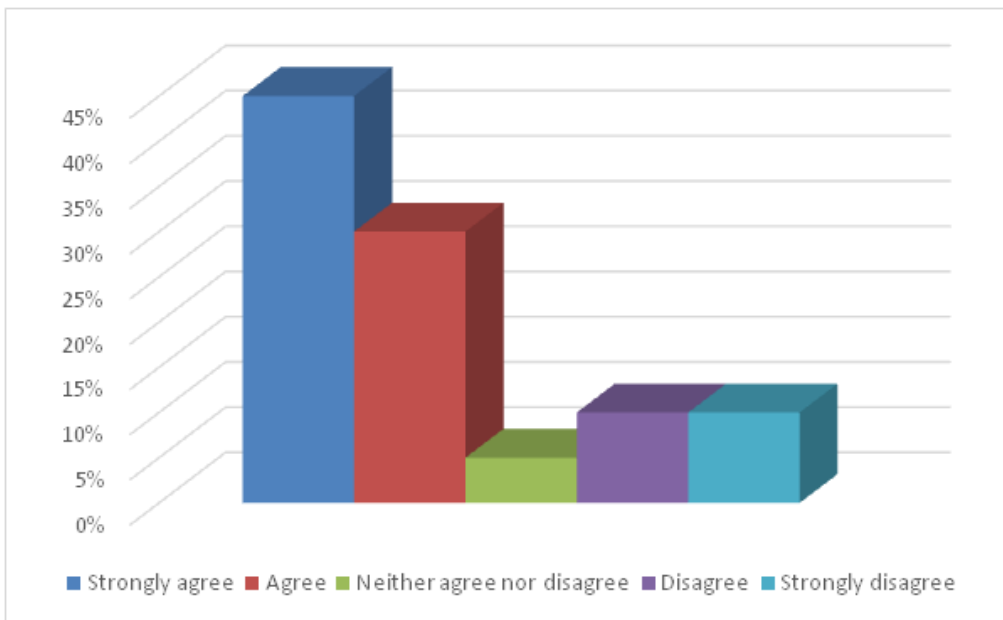
Figure 2:Lack of Popularity



Source: Primary data

It shows that online food delivery service is a major fact that adds popularity to the restaurants; thereby, they can expand their restaurant business to large area.

Figure 3: Low income and profit

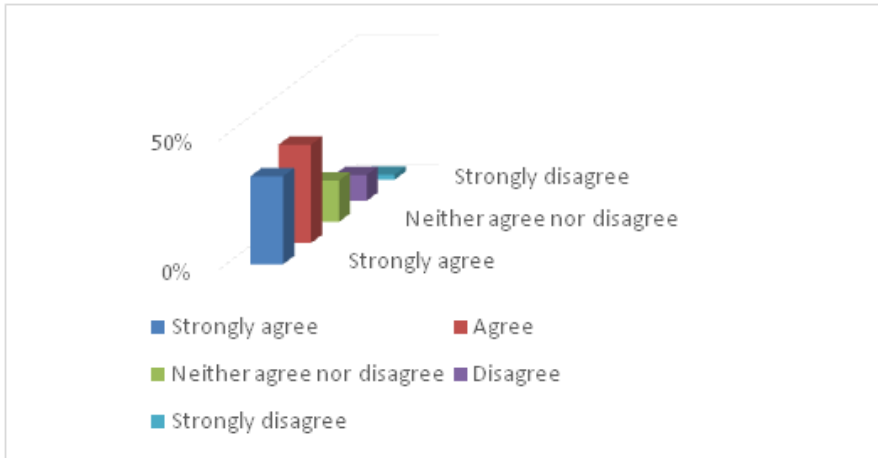


Source: Primary Data

As per the figure 3 it is stated that most of the restaurants continue to face low income and profit in their restaurant business. In order to get rid of this problem and also as a solution, they

prefer online food delivery services. It helps them to get extra sales and thereby earn more revenue and profit.

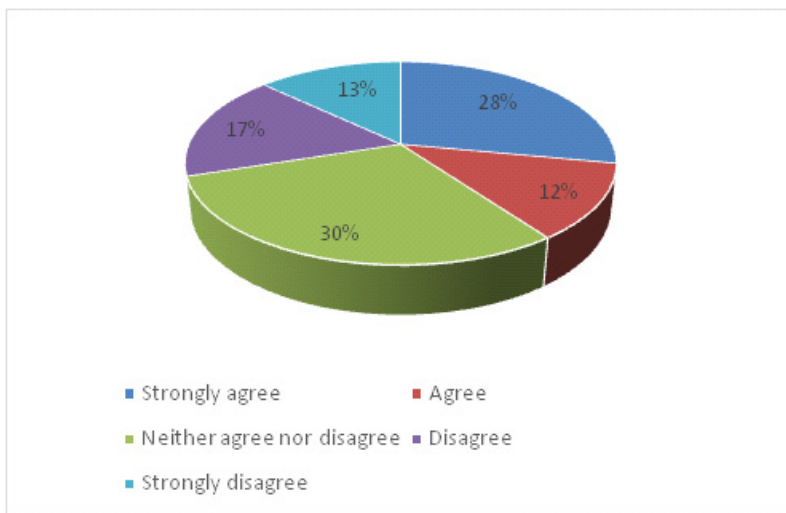
Figure 4: Absence of new business opportunities



Source: Primary data

Figure 4 shows, that restaurants join with online food delivery service because they lack new business opportunities. Most of the restaurants are in the opinion that food delivery through digital route helps them to create new ways to expand their business and build a good future to restaurateurs.

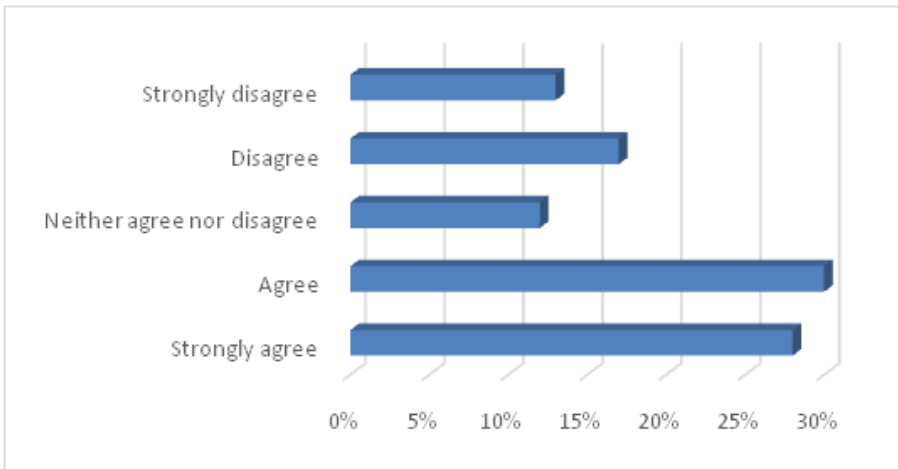
Figure 5: Lack of fund for expansion



Source: Primary Data

Figure 5 stated that the restaurants which have no funds for expansion could choose online food delivery service as a better option to expand their business. Because online food delivery never demands an additional physical place for doing business.

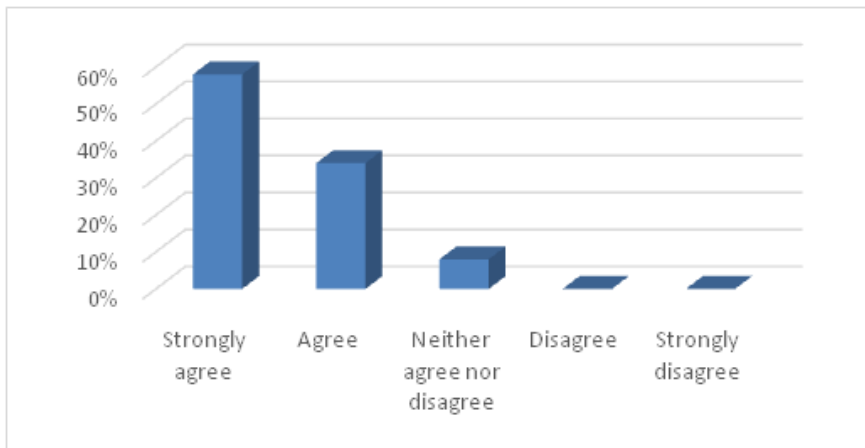
Figure 6: Lack of seating capacity at the restaurant



Source: Primary Data

This table reported that most of restaurants prefer online food delivery services as a means of increasing their number of customers by eliminating the problem of lack of seating capacity at the restaurant. Only small portion of restaurants strongly disagrees with this point.

Figure 7: Limited marketing space at the restaurant



Source: Primary Data

This figure reveals that offline restaurant business has limited marketing space for doing their business. But online food delivery service helps them to provide wide scope for marketing thereby, they can earn more sales and revenue.

Conclusion

This paper documents an outline regarding online food delivery service consists of its

history and evolution. As per the study, wide penetration of the internet and mobile phones have enabled the restaurants to summate online services along with its existing restaurant business. The immense use of the internet in the food delivery segment also created different food delivery models for enhancing restaurant businesses.

The article also highlighted major reasons for which the restaurants in Thiruvananthapuram district prefer online food delivery services for managing restaurant businesses. With the study, it is clear that the chief reasons for the selection of Online Food Delivery Service by restaurants are reduction in the number of dine-in customers at restaurants, Non-availability of sufficient income and profit from existing business, limited seating capacity in small-sized restaurants, brimmed marketing space to run a restaurant business and lack of popularity of restaurants. In addition to this, the restaurants which lack huge funds for expansion also choose this service as a golden opportunity to increase their business and sales.

By focusing on the article, the study concluded that online food delivery services could act as a solution to several problems faced by restaurants while doing their existing restaurant business.

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Estimating Stock Market Volatility Using Exponential Garch Model with Skewed Student- T Distribution

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Abstract

The aim of the study is to empirically investigate the performance of the EGARCH (1, 1) volatility model with the normal, skew-normal, and student t and skewed student t distributions on the NSE Nifty Fifty Index. Ten years of daily closing rates over the period of January 2010 to December 2020, for a total of 2730 observations, have been analyzed. According to the information criterion, this study has found that the EGARCH (1, 1) model under skewed student t distribution is a better fit than other distribution models.

Keywords: GARCH, EGARCH, Student t distribution, skewed student distribution.

Introduction

Traders use various metrics to determine the relative risk of a potential trade. A highly volatile stock is inherently riskier, but that risk cuts both ways. When investing in a volatile security, the chance for success is increased as much as the risk of failure (Treleaven, 2013).

When asset prices fluctuate sharply over time, differentials are important. The higher the volatility for a given capital structure, the higher the probability of default. The increased risk associated with a given economic activity should, therefore, see a reduced level of participation in that activity, which will have adverse consequences for investment (Daly, Financial volatility: Issues and measuring techniques, 2008).

The primary source of changes in market prices is the arrival of news about an asset's fundamental value. Some volatility clusters are short-lived, lasting only a few hours, while

others last a decade. At lower frequencies, macroeconomic and institutional changes are the most likely influences (Duffie, 2010), (Daly, 2011).

Trading and non-trading days contribute to market volatility. During recessions and financial crises, stock market volatility tends to be high. Leverage effects provide a partial explanation for market volatility changes (Bhowmik, 2013). The measured effects of stock price changes on volatility are too large to be explained solely by leverage changes (Figlewski, 2000).

According to (Engle, 1987), financial market volatility is predictable. The implication for risk-averse investors is that they can adjust their commitments to assets whose volatilities are predicted to increase, thereby reducing their exposure to risk. Volatility forecasting is an imprecise activity, just like predicting rain.

The most important development in

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modelling volatility changes was the autoregressive conditional Heteroskedasticity, or ARCH, model, introduced by (Engle, 1973). The growth rate of the ARCH literature has been spectacular over the last decade. Numerous applications of ARCH models defy observed trends in scientific advancement.

ARCH techniques have been used to model the relationship between time-varying conditional variance and the risk premium in the term structure of interest rates. In modelling exchange rate dynamics, international portfolio management depends on expected exchange rate movement through time. The linear GARCH (p, q) model has been widely used for modelling exchange rate dynamics. This study focuses on the EGARCH model that allows good and bad news to have a different impact on volatility, while the standard GARCH model does not, and it allows big news to be more impactful in determining how much volatility is affected by economic or political events.

$$r_t = \ln \frac{l_t}{l_{t-1}} \times 100$$

The conditional variance equation in the EGARCH model is set as follows:

$$\ln(\sigma_t^2) = \omega + \beta \ln(\sigma_{t-1}^2) + \alpha \left| \frac{\varepsilon_{t-1}}{\sigma_{t-1}} - \sqrt{2/\pi} \right| + \gamma \left(\frac{\varepsilon_{t-1}}{\sigma_{t-1}} \right).$$

The left is the logarithm of conditional variance which means that the leverage effect is exponential rather than secondary; so, the predictive value of conditional variance certain is nonnegative. The existence of the leverage effect is tested through the hypothesis $\gamma < 0$. As long as $\gamma \neq 0$, the effect of shocks exist in non-symmetries (Hao Liu, 2009).

Data Analysis

First, the data’s stationarity is checked using the Augmented Dickey-Fuller Test, and then the ARCH test is used to examine the time dynamics of conditional variance. By

Method and Materials

Data collection and diagnostic tests

This study uses the daily return of NSE Nifty fifty close price from NSE website (www.nseindia.com) over the period from January 2010 to December 2020. These close prices are converted to daily return. RStudio is used to test the daily return series for various statistical properties such as normality test, QQ plot and GARCH estimation. The relative return on the market index is calculated as:

Econometric models selection and their estimation

This study applied the EGARCH model of order (1, 1) for the volatility estimation and tested with four different distributions such as normal, skew-normal, student t and skewed student t distribution (A, 2022).

(Nelson, 1991) Proposed the E-GARCH model to address a few issues with the GARCH model. This paper explores how asset returns can be affected by valuation asymmetries.

analyzing the QQ plot of various distributions for best fit distributions and estimating the EGARCH model under various distributions. Finally, select the best model based on the information criterion and, on the basis of empirical results, the conclusions are drawn.

Analysis and discussions

Table 1 discusses the descriptive statistics of the log return series and clearly shows the presence of larger kurtosis and higher deviation among the various statistical properties. This has significant consequences for analyzing the risk-return relationship and the time-varying nature of correlations.

Table 1. Descriptive Statistics

Min.	1st Qu.	Median	Mean	3rd Qu.	Max.
-0.1390375	-0.0050820	0.0006370	0.0003602	0.0061529	0.0840029

Source: Author own Calculation and Compliance

A unit root test detects if a non-stationary time series variable has a unit root. The null hypothesis is the presence of a unit root, while the alternative hypothesis is stationarity, trend stationarity, or explosive root. Table 2 indicates that the unit root test shows that the first difference between the Nifty Fifty is all stationary.

Table 2. Augmented Dickey-Fuller Test

Dickey-Fuller = -13.558, Lag order = 13, p-value = 0.01

Source: Author own Calculation and Compliance

The Lagrange Multiplier test introduced by Engle (1982) assesses the significance of a fitted linear regression model for the squared residuals. The null hypothesis, therefore, states that the squared residuals are a sequence of white noise, i.e., that the residuals are homoscedastic. The table 3 LM test shows a p-value less than 0.05, which indicates that the null hypothesis (no arch effect) can be rejected. Therefore, the log of stock returns has an ARCH effect.

Table 3. ARCH LM-test

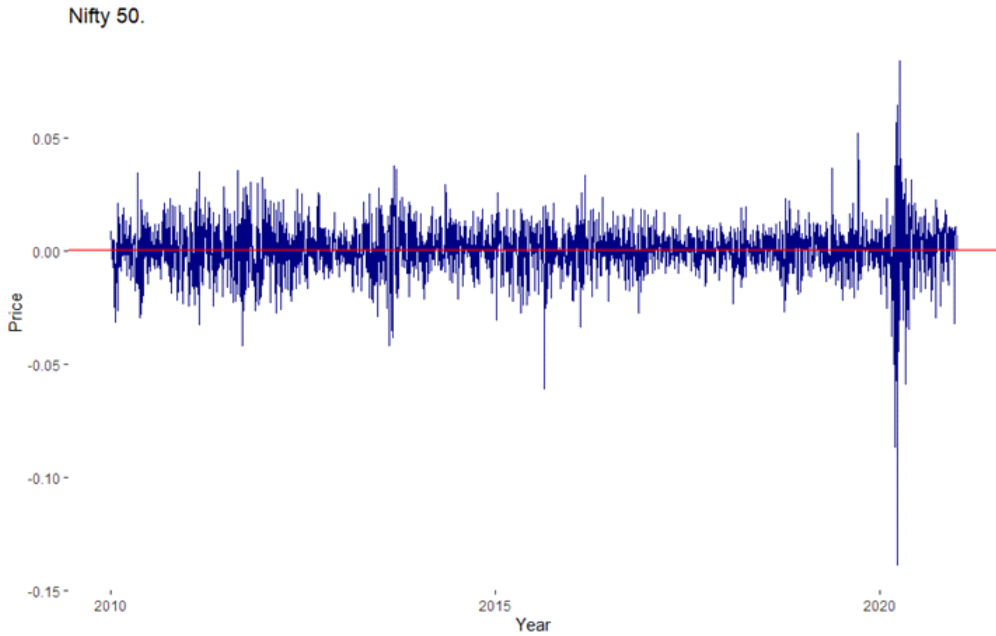
Chi-squared = 758.64, df = 12, p-value < 2.2e-16

Source: Author own Calculation and Compliance



Source: Author own Calculation and Compliance

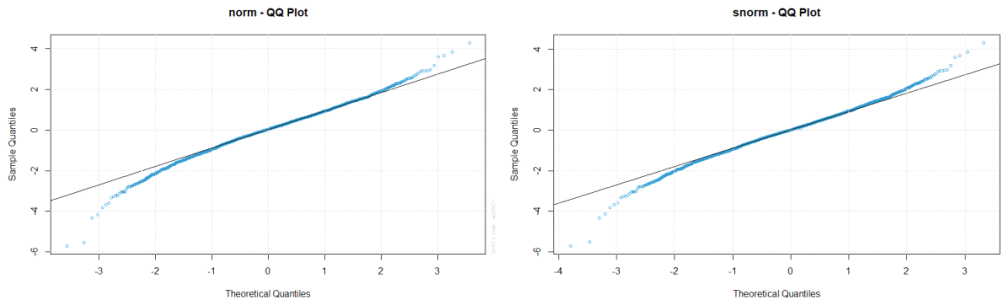
Figure 1. Nifty Fifty Closing Prices



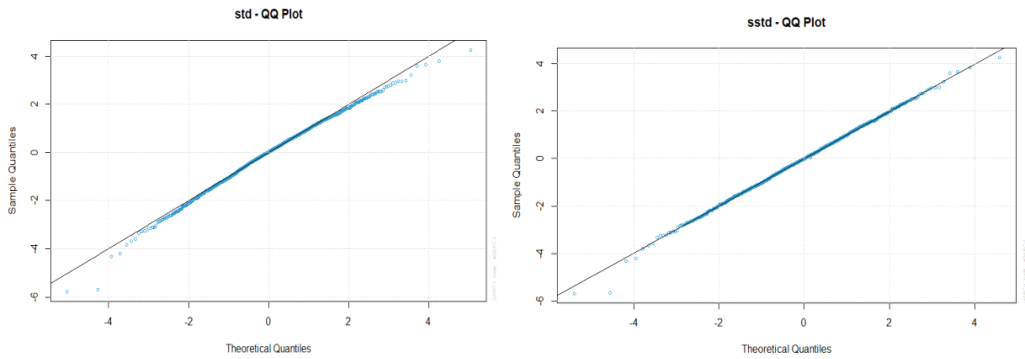
Source: Author own Calculation and Compliance

Figure 2. Nifty Fifty Index log return series

The daily return plot appears to show a stationary process with a zero mean, but the volatility shows periods of relative calm followed by swings (volatility clustering). The white-noise test reveals that there is no substantial serial correlation in the time series, but the ARCH effect is significant and indicates time-varying volatility(Harvey, 1992).



Source: Author own Calculation and Compliance



Source: Author own Calculation and Compliance

Figure 3. Quintile plots for log return series of the NSE Nifty fifty, Normal distribution (first row-left), Skew-Normal (First row-right), Student t distribution (Second row-left), and Skewed student t distribution (Second row-right).

The Q-Q plot depicts an asymmetrical view of the distribution tails; the left tail (i.e., extreme negative returns) deviates significantly from the Gaussian distribution. In the financial time series, this is a well-documented phenomenon. The theoretical quantile of a skewed student t distribution shows more fit to the data compared with other distributions. The literature has proposed numerous generalizations of the student’s t distribution in recent years. Applications-wise, the student’s t distribution and its generalizations have become widespread. The most prevalent economic and financial data models(Li, 2020).

Table 4 shows the estimated parameters of EGARCH with different distributions. The results indicate that EGARCH with student t distribution and skewed student t distribution, all parameters are significant.

Table 4. Parameter Estimation for EGARCH (1, 1) Model under Four distributions

Parameters	Normal	Skew-Normal	Student t	Skewed Student t
Mu	0.000314 (0.64623)	0.000256 (0.081161)	0.000501 (0.005361)	0.000345 (0.034794)
Omega	-0.229405 (0.51850)	-0.233557 (0.000000)	-0.219241 (0.000000)	-0.221763 (0.000000)
Alpha 1	-0.101163 (0.68921)	-0.101067 (0.000070)	-0.104408 (0.000000)	-0.104399 (0.000000)
Beta 1	0.974986 (0.00000)	0.974482 (0.000000)	0.976700 (0.000000)	0.976223 (0.000000)
Gamma 1	0.119668 (0.15133)	0.118766 (0.000000)	0.111104 (0.000000)	0.112046 (0.000000)
Skew		0.898085 (0.000000)		0.906399 (0.000000)
Shape			8.222721 (0.000000)	8.426183 (0.000000)

Source: Author own Calculation and Compliance

Note. The first row indicates estimate values and the second row shows p-values

Table 6 explains that the task of selecting one model from a group of candidates is known as “model selection.” The Akaike Information Criteria (AIC) and Bayesian Information Criteria (BIC) were used to choose appropriate models (BIC). Trial and error tests were carried out using the R statistical software to find the best-fitting model. The goal was to create a compact model that captured as much variation in the data as possible. The AIC and BIC values of the best model should be lower. Models with higher AIC and BIC values are more effective(West, 2012).

It is thought to be inappropriate. Of the two approaches used in the selection, the EGARCH model had the most negative values. The fitted models with the minimum AIC and BIC values are the EGARCH model with a skew student t distribution.

Table 5. Information Criteria

Criteria	Normal	Skew-Normal	Student t	Skewed Student t
Akaike	-6.4896	-6.4963	-6.5180	-6.5222
Bayes	-6.4788	-6.4833	-6.5050	-6.5070

Conclusion

This study compared the performance of the EGARCH model using normal, skew-normal, student t, and skewed student t distributions on the daily returns of the NSE Nifty Fifty over a 10-year period. The left tail of the log of stock returns deviates significantly from the Gaussian distribution, exhibiting an ARCH impact. Compared to other distributions, the theoretical quantile of a skewed student t distribution fits the data better. The objective was to develop a compact model that caught as much data variance as feasible.

Empirical results demonstrate that incorporation of EGARCH with a skewed student t distribution gives proper volatility estimation under the circumstances of skewness and heavy tail in the data(Alberg, 2008).

Estimating and forecasting high-frequency financial time series using asymmetric GARCH models can improve the outcomes. As long as non-normal densities are utilized with obviously non-normal series, adding non-normal densities is a potential field. These are the non-central Student-t and skewed Student-t distributions, as suggested in the context of strong stochastic volatility(Xie, 2021).

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Examining the Financial Efficiency of Urban Co-Operative Banks in Kerala - A CAMEL Model Analysis

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Abstract:

Urban cooperative banks play an essential role in the economic liberation of millions of people in our nation. It has emerged as a social and healthy banking institution providing need-based and quality banking services to the middle class and the marginalised sections of the urban population. Sound financial health is a guarantee to the depositor's shareholders, employees and the economic system as a whole. In this study, an attempt is made to evaluate the financial performance of UCB using the CAMEL Model. This model mainly measures the bank's performance from the five parameters: Capital Adequacy, Asset Quality, Management Efficiency, Earning Capacity, and Liquidity. The study is based on secondary data drawn from the annual report. For analysis, data over ten years are used. Statistical tools like average and standard deviation are used. It is found that the bank's overall performance is satisfied with its asset quality being good. It was in a decent recovery position, but its financial condition in terms of capital adequacy, liquidity, earning rate, and management efficiency metrics was shabby, needing quick intervention.

Keywords: Cooperative Banking, CAMEL Model, Financial Efficiency, Capital Adequacy

Introduction

The integration of the Indian Financial sector with the rest of the world during the era of the LPG Financial sector in general and the banking sector, notably, underwent a paradigm shift. RBI took strong measures based on the recommendations of the Narasimham Committee and issued directions to all the banks to follow the norms of capital adequacy, asset quality, provision for NPA, prudential norms, disclosure requirements, acceleration of the

reach of the latest technology, streamlining the procedures and complying with accounting standards and making financial statements transparent. In terms of supply, product diversity, and space, banking in India is mature, even in rural India, thanks to rural and remote banking. Indian banks have cleaned, robust, and transparent balance sheets in terms of asset quality and capital sufficiency (Gupta & Verma, 2008). Long-term cooperatives provide term finance for capital formation and rural non-farm projects.

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High capital buffers have strengthened the balance sheets of Urban cooperative banks following the implementation of Basel III norms which may help banks to manage stress and emerge stronger¹. Especially UCB is taking many initiatives for granting of credit during the Covid period. The Urban Cooperative banks are in alignment with the policy framework of RBI².

The current policy of lowering non-performing assets and rationalising personnel and branches may be maintained to proficiency advantages and make Indian banks internationally competitive, which is a stated goal of the Indian government (Sathye, 2003). Economic development is primarily determined by actual variables such as industrial growth and development, agricultural modernisation, and the ex-patdomestic and international commerce expansion loan-loss provision as a percentage of total loans) and efficiency has a positive and substantial association in the banking business (Tan & Floros, 2013).

The importance of the banking sector and the monetary system in developing a country cannot be overstated. As a result, banks and financial institutions play a substantial and critical role in economic planning, such as setting precise goals and assigning specific amounts of money, which form the government's monetary policy. A stable financial system is required to grow a healthy and thriving economy. The strong banking industry is an integral part of the financial services industry. It is critical to assess banks' overall performance by establishing a regulatory banking oversight structure.

The CAMEL rating system, which was initially used in the United States in 1979 and has since been proven to be a helpful and effective instrument in the United States' response to the financial crisis of 2008, is one such measure of supervisory information (Prasad & Ravinder, 2012) The CAMEL framework was designed to identify when a

bank's on-site examination should be scheduled. When any of the five cardinal variables, capital adequacy, asset quality, management soundness, profits and profitability, and liquidity, are insufficient, bank collapse increases. The five camel factors were chosen because each represents a significant feature in a bank's financial accounts (Kouser & Saba, 2012). In India, the Reserve Bank of India (RBI) adopted this strategy in 1996, based on the suggestions of the Padmanabham Working Group committee in the year 1995.

Background

The cooperative sector in India had come a long way since its humble beginnings in 1912, when the Cooperative Societies Act was enacted, being organised based on 'one member, one vote,' with a focus on dispensing credit at the micro-level, especially to small and marginal farmers and other underserved segments of the population. The soundness of the financial system participants is a key element of the financial stability framework. In India, the banking system plays a dominant role in the overall financial system. Therefore, one of the core objectives of the banking regulations is to ensure the safety of the banks from financial distress and to protect the interests of depositors. However, the regulatory and supervisory structure has to remain alive to the existing weaknesses, unresolved issues and emerging challenges in order to stay on the curve. As a small though important part of the banking system, the urban cooperative banks (UCBs) perform important functions through their superior customer service and local reach.

Urban Co-operative banks come under Primary cooperative societies at the base level of three tier pyramidal structures. The urban cooperative banks play a dominant role in helping the small farmers and small-scale industrial concerns, as UCBs are formed on the principle of cooperation. Right from their establishment, UCBs are solving the economic problems of a lower-middle-income group of

¹https://rbidocs.rbi.org.in/rdocs/Publications/PDFs_0RTP2020CF9C9E7D1DE44B1686906D7E3EF36F13.PDF

²https://rbidocs.rbi.org.in/rdocs/PublicationReport/PdfsSRJULY20210595CD3BEDFA466EBE9169_BCE426E32C.PDF

people and thereby contributing to the socio-economic development of the poor people in the country.

In today's scenario, a complete turnaround of the performance of urban Co-operative is not expected without CAMEL Model. This framework enhances capital adequacy, strengthens asset quality, improves management, increases earnings, and reduces sensitivity to various financial risks. CAMEL framework has its contributions to contributions to the way of modern banking. These banks face several hardships from administrators and regulators and severe competition from public and private sector banks. In this context, it is essential to examine the performance of this bank with the CAMEL Model. Therefore, this paper examines the performance of Urban Co-operative Banks using the CAMELS framework as a measuring tool. The scope of the study is limited to the Urban Co-operative bank. The banks are purposively selected for the study considering their role and involvement in Advances, Deposits, Manpower Employment and Branch network in the Palakkad district. The data over ten years from 2011- to 2021 are considered for this study.

Review of Literature

The banking industry is one of the fastest-growing industries globally, with a large amount invested in it. The banking system is increasingly complicated, necessitating a significant requirement to assess bank performance. This research is one of the few that has connected the financial performance of cooperative banks in a CAMELS model framework. Thus, it is expected that this research will make a significant contribution to the literature.

Financial performance analysis of banks

Weber(2017)examined the relationship between Chinese banks' sustainability performance and financial metrics to see if sustainability laws can be implemented without harming the banking sector's economic performance. Barra & Zotti (2019) investigated the link between bank performance and banking

system financial stability, considering market concentration. The z-score is employed as a measure of financial stability, whereas the performance of financial intermediaries is tested using a recently created parametric technique.

Maqbool & Zameer (2018) investigated the link between corporate social responsibility and financial success in the Indian context by collecting data for 28 Indian commercial banks listed on the Bombay stock exchange (BSE) for ten years (2007–16). The findings showed that CSR has a favourable influence on Indian banks' financial performance. Mondal & Ghosh (2012) examined the link between intellectual capital and the financial performance of 65 Indian banks for ten years, from 1999 to 2008 experimentally.

Cooperative Credit Institutions have played a critical role in rural India's financing of many activities. In recent years, these institutions have faced a difficult environment that has caused them to reconsider their business strategy and raise worries about their long-term viability. Chander& Chandel, (2010) investigated the financial feasibility of an apex-level cooperative credit organization-HARCO Bank. Asher, (2007) advocated governance and regulatory systems must be aligned with India's current and future economic structure, and appropriate laws must be updated. A paradigm shift in the role of UCBs is required to enhance such a change. Ramu, (2009) attempted to assess asset quality in a small number of UCBs in Tamil Nadu. The report also looked at financial cooperatives' non-performing assets in other countries. A comparison of UCBs with international financial cooperatives was also made. (Chipalkatti et al., 2007) demonstrated that a financial crisis is linked to a decrease in deposits across the UCBs. During election years, however, depositors appear to discipline weak institutions. They also found little support for the claim that banks curtailed loans in the aftermath of a crisis due to increased regulatory monitoring. CAMEL technique was used to assess the performance and financial soundness of Women Urban Cooperative Banks in Bangalore District by Acharya, (2013)

Though several UCBs have delivered solid results in recent years, a considerable number of institutions have shown signs of vulnerability. Low profitability, ever-growing non-performing assets (NPA), and a relatively low capital base characterise the operating efficiency. Due to heavy late and non-collection of loans made by them, their status rapidly deteriorated. The widespread illness in UCBs has shattered public trust in cooperative banks. This prompted CHAO & LIN, (2007) to investigate the working and financial performance of urban cooperative banks. Identified and analysed the sector's trend, performance, and vulnerabilities, as well as to shed light on the issues of rising NPAs and make some practical ideas for improving the efficiency and effectiveness of these banks' operations.

The CAMEL Model

The CAMEL Model was used to analyse the performance of five banks chosen based on market capitalisation, according to research by Bansal Rohit & Mohanty Anoop (2013) (i.e. SBI, HDFC Bank, ICICI Bank, Axis Bank and Kotak Mahindra Bank.). This model evaluated a bank's performance in terms of capital adequacy, asset quality, management, earnings, and liquidity, among other factors. Moreover, P. Kaur (2015) attempted to examine the financial performance of the Indian banking industry using the CAMEL model and identify the elements that most affect the banks' financial performance.

Based on total assets and a consolidated basis, J. Kaur et al. (2015) measured and compared the financial performance of India's leading five public sector banks, including Bank of Baroda, State Bank of India, Punjab National Bank, Bank of India, and Canara Bank, for five years from 2009 to 2014. Furthermore, Sayed & Sayed (2013) conducted a thorough analysis, and the result showed that, on average, Kotak Mahindra Bank stands at the top position among the commercial banks in India.

The Regional Rural Banks undertook an amalgamation process across the entire organisation in 2005-06 to ensure effective and

efficient performance. Using the CAMEL model, (Reddy & Prasad, 2011) investigated the financial performance of selected RRBs throughout the post-reorganization era. From 2007-to 2017, (Kumar & Malhotra, 2017) used the CAMEL model to measure selected private banks' performance and financial soundness in India. State Bank of India and its five associate banks, namely State Bank of Bikaner & Jaipur, State Bank of Hyderabad, State Bank of Mysore, State Bank of Patiala, State Bank of Travancore, and Bharatiya Mahila Bank, have used the CAMEL Model to evaluate and rank the selected banks on target performance indicators.

Sharma & Patel, (2019), through their study, indicates that all banks have various competitive advantages and that the merger has allowed them to use each other's competitiveness to benefit the overall performance of the banks. Salem & Zaidanin, (2020) employs the CAMEL model variables to rank banks based on their overall performance and measure their impact on banks' profitability measures of Return on Assets and Return on Equity separately, using a fixed effect regression model. Majumder & Rahman, (2017) assess the financial performance of fifteen Bangladeshi banks and determine whether there is a substantial difference in performance across the banks during the from 013. The financial strength of the selected banks was assessed using the CAMEL Model.

Methodology

The study is descriptive based on secondary data drawn from the annual reports of the UCBs. The research instrument CAMEL Model is used as incorporated by H. V. Kaur, (2010) in ranking the various commercial banks operating in India. For applying this model, five principal dimensions of the performances are assessed using ratio analysis. The financial ratios are divided into five main categories illustrated below. This methodology is a proportion-based model to assess the performance of the banks to offer a unique point of view in setting the element's important productivity of banks. The CAMEL approach rates the performance of the banks utilising five

key measurements: capital sufficiency (C), Asset quality (A), Management (M), Earnings (E), and Liquidity (L).

Capital Adequacy

Capital adequacy is the level of capital required by the banks to enable them to withstand the risks such as credit, market and the operational risk they are exposed to in order to absorb the potential losses and protect the bank's debtors (Vincent Okoth & Gemechu Berhanu 2013). The capital adequacy ratio reveals the internal strength of the bank to bear losses. The banks are required to maintain the capital adequacy ratio (CAR) of 9% as per the latest RBI Norms. The higher the CAR ratio stronger the bank will be and more will be the protection of investors, (Parvesh Kumar & Afroze Nazneen 2014). The following parameters are used for evaluating the capital adequacy of UCBs.

1. Capital Adequacy ratio
2. Debt Equity Ratio
3. Proprietary Ratio
4. Interest Coverage Ratio
5. Total Advance to Total Asset Ratio
6. Govt. securities to Total investment Ratio

Asset quality

The asset quality ratio helps to ascertain the component of non-performing assets as a percentage of the total assets (D. Maheswara Reddy & KVN Prasad, 2011). Asset quality problems can diminish the liquidity inherent in the loan portfolio and hurt bank capital adequacy. Poor asset quality also reflects upon management's competence. I have compared the asset quality based on the following parameters:

1. Net NPA to Net Advance Ratio
2. Gross NPA to Net Advance Ratio
3. Loan Loss Cover
4. Total Investment to Total Asset Ratio

Management Quality

Management efficiency is a qualitative factor for measuring the efficiency of the management.

It determines the soundness of the management. The lower the ratio better will be the bank. It shows the management has a good ability to handle the banks' operation, (A. Khaled & Ghassan Daas, 2017). To calculate the efficiency, the following parameters are used.

1. Expenditure to Income Ratios
2. Total Advance to Total Deposit Ratios
3. Asset Turnover Ratios
4. Diversification Ratios
5. Earnings Per Employee Ratios
6. Business per Employee Ratio

Earnings quality

Earning quality ratios basically determine the profitability of banks and explain its sustainability and growth in earnings in future. It assesses income quality based on income generated by core banking activity,

1. Return on Assets
2. Return on Equity
3. Spread ratio
4. Net Interest margin
5. Operating Profit to Working Fund Ratio
6. Interest income to Total Income Ratio

Liquidity

The main objective behind this parameter is to assess the ability of a bank to meet the demand from the deposit holders at a particular time. Generally, the performance of the bank is assessed through liquidity ratios. The ratio will be higher for banks with higher liquidity (Sumeet Gupta & Reenu Varma, 2008). Liquidity has been compared based on the following parameters, namely,

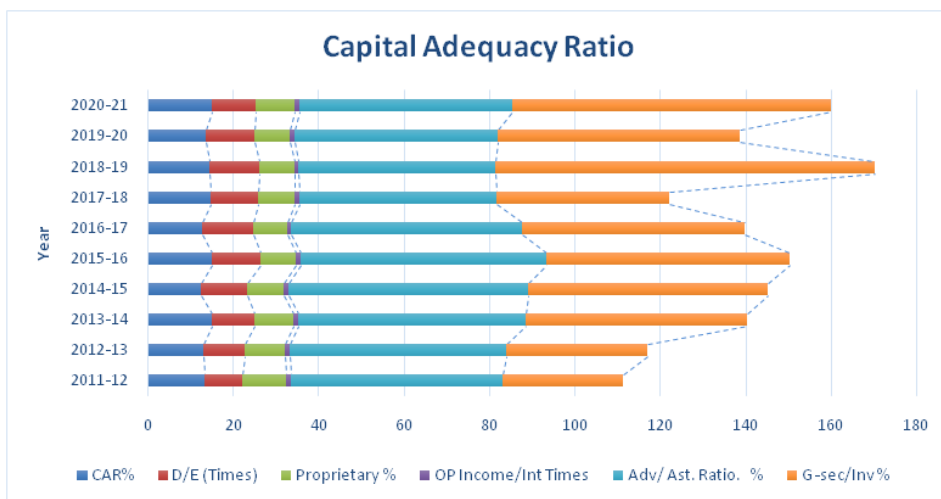
1. Current Ratio
2. Quick Ratio
3. Liquid asset to total Asset Ratio
4. Liquid asset to Total Deposit ratio
5. Govt. Securities to Total Asset Ratio
6. Investment to Deposit Ratio

Results and Discussion

Capital Adequacy

The capital adequacy ratio ensures the efficiency and stability of a bank. The standard ratio is 9%. As per the Basel committee norms, all banks in India, including UCBs, are trying to adhere to this norm. The following ratios have been taken into consideration to understand the capital adequacy ratio of UCB. Figure 1 shows that the average CAR is 13.8%, above the standard norm of 9%. The average debt-equity ratio is 10.7 times, revealing that the bank’s long-term debt was more than ten times the share holder’s equity.

Figure 1
Capital Adequacy Ratio



Source: Authors Calculation

The average proprietary ratio was 8.73, which is also appreciable. The interest coverage ratio is more or less stable at 1.13% during the entire study period. The average 1.13 times disclose that the bank has a good proportion of operating income to meet its obligation, and to that extent, the bank is considered solvent. The total advance to total asset ratio measures banks’ aggressiveness in lending. It is quite palpable. Govt. securities to total investment ratio count the number of risk-free assets invested by a bank in government. Securities as a percentage of total investment held by the bank. The ratio was 28.12, % which increased to 74.48% in 2018-19, showing that the investment in Govt. securities has increased considerably. The average balance is 53.09.

Asset Quality

Asset quality is the loan portfolio quality and the credit administration programme. Loans and advances comprise the majority of banks’ assets and carry a large amount of risk to their capital. Deteriorating the value of Assets directly affects profitability. As the provision on Gross NPA increases, it affects the bank’s earning capacity. The following ratios were calculated to judge the asset quality of UCB.

Table 2: Asset Quality

YEAR	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	Mean	S.D	C.V
NET NPA/NET Adv	.045	.039	.023	0.005	0.003	0.004	0.038	0.05	0.033	0.003	0.024	0.019	77.42
Gross NPA/Net Adv.	11.19	10.0	7.82	4.01	4.3	4.13	8.38	9.24	7.38	4.13	7.05	2.73	38.66
Provision coverage ratio	117.07	140.8	163.6	277.69	240.52	261.07	165.38	145.59	169.98	319.43	200.13	68.69	34.32
Total investment to Total Advance	26.18	729.4	542.2	40.17	37.84	40.34	42.61	47.66	57.32	68.21	44.73	12.05	26.94

Source: Authors Calculation

Table 2 indicate that Net NPA to Net advance shows the fluctuating trend over the study period. The ratio was high in 2011-12 and low in 2015-16, and in 2020-21, the average ratio stood at 0.024. Gross NPA to net advance ratio measures the quality of assets in a situation where the management has not provided provision for NPA. The provision coverage ratio is the measure that indicates the extent to which the bank has maintained conditions against the loan portfolio. The ratio shows the fluctuating trend and is satisfactory over the period. The total investment to Total asset ratio is a standard measure of the percentage of total assets locked up in investment. The average total investment to total advance ratio reveals that the bank invested around 40% of its assets on acquisition. However, in 2019-20 and 2020-21, they invested more than half of their holdings in investment.

Management Efficiency

The performance of Management capacity is qualitative and can be understood through the subjective evaluation of Management systems, organisation culture, control mechanisms etc. However, the power of the management of a bank can be measured through specific ratios of off-site evaluation of a bank. The capability of the administration to deploy its resources aggressively to maximise the income, utilise the facilities in the bank productively and reduce cost etc. This can be evaluated with the help of the following ratios.

Table 3: Management Efficiency.

YEAR	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	Mean	S.D	C.V
EXp/Incom	81.92	80.95	85.7	85.67	86.09	89.91	88.56	87.44	85.07	79.47	84.97	3.54	4.16
TA/TD	60.74	61.98	63.66	65.46	65.7	61.61	52.93	52.72	54.74	57.56	56.71	4.93	8.25
Asst turnover %	0.107	0.105	0.102	0.109	0.112	0.113	0.114	0.11	0.104	.112	.1082	.052	4.7

Diversification %	4.92	4.21	5.78	4.27	3.06	3.54	3.14	3.37	3.39	4	3.968	0.87	21.9	
EPE (Rs.)	27.0	32	36.91	45.04	61.4	59.5	68.2	75.5	78.29	80.42	56.45	19.89	35.2	
BPE (Rs.)	355.	439.	504.8	635.7	806.2	1	3	7	958.	1061.	1121.	674.2	335.0	49.6
	1	9	9	5	6	790	74	1	26	49	99	9	9	

Source: Authors Calculation

The total advances to total deposit ratio measures a bank’s competence to convert the deposit available with the bank into high earning advances. This ratio registered an increasing trend over the study period and reached its maximum of 89.91 during 2013-14 and declined to 80.95 in 2012-13. The average total advance to total deposit was 79.47. The asset turnover ratio indicates the total revenue earned for every rupee of the bank’s assets. The ratio shows an increasing trend in the initial years and declined at the end of the study period. The average asset turnover ratio was 10.92.

The diversification ratio measures banks’ income other than the interest income in total revenue. This ratio reveals fluctuating trend for the entire study period. The percentage decreased from 4.92 in 2011-12 to 4.21 in 2012-13. Subsequently, the ratio increased to 5.78 in 2013-14 and showed a decreasing trend in the study period. The average diversification ratio was 3.97%. Earning per employee ratio indicates the average profit generated per person employed by the bank. The ratio showed an increasing trend throughout the study period. The percentage increased from 27.08 in 2011-12 to 80.42 in 2020-21. The average earning per employee ratio was 674.299.

Earnings Quality

The earnings or profits are conventional parameters used for measuring financial performance. Higher-income reflects a lack of financial difficulties. The quality of earning is the very decisive factor that determines the ability of a bank to earn. It demonstrates the profitability, sustainability and growth in earnings. The accounting ratios used for measuring quality are as follows.

Table 4: Earning Quality Ratios

YEAR	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	Mean	S.D	C.V
ROA %	0.71	0.67	0.67	0.61	0.63	0.63	0.45	0.46	0.58	0.7	0.61	0.91	14.8
ROE %	7.58	7.85	8.13	7.81	8.38	8.59	5.81	6.03	7.72	8.27	7.62	0.95	12.4
NIM	3.04	3.05	3.12	2.75	2.97	2.56	2.38	2.65	2.57	3.23	2.83	0.2	10.1
II/TI %	95.0	95.7	94.2	95.7	96.9	84.0	96.8	96.6	96.5	96.0	94.7	9	9
	8	9	2	3	4	7	6	1	9	1	9	3.86	4.5

Source: Authors Calculation

Table 4 states that the return on asset ratio is a profitability ratio which measures the bank’s efficiency in using its assets to generate net income. Shows fluctuating trends throughout the study period. The average ratio 0.611. The return on equity ratio measures the profitability of shareholders’ investment. It showed fluctuating trend throughout the study period.

Figure 2: Earnings Quality Ratios



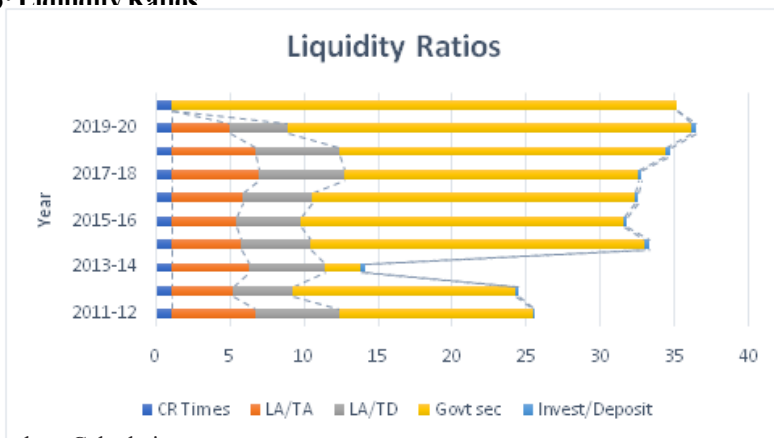
Source: Authors Calculation

The average return on equity ratio was 7.62% Net interest margin ratio is calculated as a percentage of interest-bearing assets. In the year 2012-13, the ratio was 3.04%. It became 3.05 during 2013-14 and decreased to 2.75 in 2015-16 and continued the trend over the period and increased to 3.27% during 2020-21. The average interest Income Total Income ratio was 96.01, above the average throughout the study period. Figure 2 depicts a pictorial depiction of all parameters in earnings quality throughout the years of study.

Liquidity Ratios

The liquidity ratio measures the ability of a bank to provide short-term obligations and loan commitments. Liquidity is the critical parameter in the banking sector as banks are considered liquidity creators in the market. If the liquidity management of a bank is not proper, it can adversely affect its performance of the banks. Figure 3 indicates that the current ratio registered a satisfactory trend. The highest current balance is 1.092 times recorded during 2013-14 and 2020-21 as the existing assets increased faster than current liabilities.

Figure 3: Liquidity Ratios



Source: Authors Calculation

The average current asset is 1.086. The liquid asset to total deposit ratio measures the liquidity available to the bank's depositors. The ratio registered a satisfactory trend during the entire study. The average liquid asset to total deposit ratio remains 4.18%. Govt. securities to Total asset ratio measures the amount of risk-free purchase invested in govt securities as a percentage of total support held by the bank. Govt securities to Total asset record a fluctuating trend for the entire study period. The highest growth rate is recorded in 2019-20, being 34.012, and the lowest ratio was found in 2016-17, being 2.34. The average Govt. securities to total asset ratio was 19.92. The short-term investment to deposit ratio designates the effectiveness of the management of UCB in converting their deposit to investment. The highest ratio is found in 2020-21, being 0.39%. The average short-term investment to short-term deposit ratio remains 0.254. Figure 3 depicts a pictorial depiction of all parameters in liquidity ratios throughout the years of study.

Policy & Research Implications

It is visible from the financial analysis of March 2020 that 357 urban cooperative banks (UCBs) had failed in the country, leading to a payment of Rs 4,903 crore in claims, including Rs 70.8 crore paid during FY20 and Rs 9.8 crore under the settlement policy³. Thus, liquidity of money is a primary concern; however, this particular study registered satisfactory liquidity parameters. The critical problem in these banks was their dual regulation by the state registrar of societies along with RBI⁴. So, a proper standard operating procedure shall be enacted to promulgate the smooth functioning of the UCBs.

The average loan loss cover maintained by the bank is more than two times its Gross NPA. The average operating expenditure to operating income ratio of 84.97 shows that the bank operates efficiently. The formation of committees like the Audit Committee and

Remuneration committee should be encouraged to be constituted to promote the corporatisation of the UCBs to streamline operations. Disclosures/ financial statement templates applicable to UCBs should be applicable. This will improve the transparency in the financial disclosures and help attract non-member investments from institutional investors to the banks.

Conclusion

Indian banks were more resilient during the pandemic, aided by the extraordinary policy initiatives by the RBI and Central and State Governments. The analysis shows that UCBs are financially viable and have adopted prudent financial management policies. The banks have managed this capital adequacy ratio well above the minimum standard of 100% fixed by RBI. The average leverage ratio is 10.77, above the standard set by RBI, i.e., 4.5%. As far as asset quality is concerned, the bank has shown significant performance. The average Net NPA to Net Advance Ratio is .024, and Gross NPA to net Advance ratio is 7.05%, at par with the proportions of commercial banks. The average 4.93 total advance to total deposit ratio shows that the bank is much more active in converting its deposit into promising advances. The average asset turnover ratio of 0.108 times indicates that the bank efficiently uses its assets to generate revenue. The average diversification ratio of 3.99 times suggests that the bank depends more on the interest income from lending operations than non-interest income. The average earning per employee is Rs. 56.45 lakhs per employee. The overall performance of the management was good. The overall earning capacity of the bank shows a good position.

Furthermore, the UCBs' corresponding share in bank deposits and advances is in the low single digits. But UCBs have much potential to provide inclusive banking services and credit access to the unbanked. This banking vacuum

³https://www.business-standard.com/article/economy-policy/deposit-insurance-urban-cooperative-banks-major-beneficiaries-shows-data-121073000036_1.html

⁴<https://www.thehindu.com/business/Industry/need-for-stricter-regulations-for-urban-cooperative-banks/article37955581.ece>

can be filled by the proper enhancement of UCBs. However, there are manifold trials and tribulations faced by smaller UCBs, which can be addressed by forming an umbrella organisation under the RBI as a self-regulatory body for the upliftment of the sub segment.

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Atal Pension Yojana: Effect of Inflation And Time Value of Money

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Abstract

Economic Growth and Development of a nation is highly influenced by the financial well-being as well as improved standard of living of its citizens. To ensure a stable income for Indian Citizens after retirement, the Government of India has introduced Atal Pension Yojana in 2015-16 Budget. APY provides a defined guaranteed pension depending on the contributions made by the subscriber towards the scheme. APY could emerge as the most popular social security scheme under the NPS System. The present paper analyzes the amount of money an investor would receive from Atal Pension Yojana after adjusting for the time value of money. The study also examines its benefits, contributions and the current trend among the public towards the scheme. The study uses secondary data. Our findings indicate that, as inflation will erode the value of pension amount over time, the pension under Atal Pension Yojana may be too small to cover the cost of living. The Government must index the subscriber contribution to inflation in order to prevent the pension fund of low-income consumers from depleting over time. If the design flaws of APY are addressed, even the most vulnerable will get benefited.

Keywords: Atal Pension Yojana, Pension, Investment, National Pension System, Inflation

Introduction

The percentage of the world's population that is 65 or older is expected to increase from 10% in 2022 to 16% in 2050 (United Nations Department of Economic and Social Affairs Population Division, 2022). Ageing populations in developing nations have significant effects on poverty and attempts to combat it. When compared to the population of working age, the young and the old have higher rates of poverty, with the very young and the very old having the greatest rates (Barrientos et al., 2003; Srivastava & Mohanty, 2012). Countries with ageing populations should take action to adjust governmental programmes to the rise in the

number of senior citizens, especially by strengthening the viability of the social security and pension systems. According to Anh Tran & Stephen Kidd (2017), pension funds are significant stimulus to the growth of every economy. They serve as a means to reduce inequalities among the people and has a notable impact on their well-being. They also facilitate large-scale investments in the economy. Pension plans are set up by employers, Government, or other organizations to benefit their employees after retirement. Financial stability and security are essential for everyone, especially those retiring from the private sector. Pension plans ensure this by providing a regular retirement

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income. The increased cost of living and inflation make retirement planning inevitable in the current scenario.

In order to regulate the pension sector in the country, the Government of India has established the Pension Fund Regulatory and Development Authority (PFRDA) on 10th October 2003. Further, in 2004, they introduced the National Pension Scheme (NPS), a voluntary defined contribution pension scheme managed by the (PFRDA). It is a social security initiative by the Central Government open to employees from the public, private and unorganized sectors (National Pension System Trust, 2022; Pension Fund Regulatory and Development Authority, 2018). Under NPS Scheme, the subscribers shall regularly contribute to their pension account during their employment period. After retirement, they can withdraw a certain portion of the corpus in lump sum and the rest will be used to purchase an annuity to ensure a steady income after retirement.

Considering the large number of employees working in the unorganized sector, the Government had started the Swavalamban Scheme in 2010-11. But the scheme could not provide clarity of future benefits to the subscribers. To cater this inadequacy, the Government of India has launched the Atal Pension Yojana in May 2015 (Press Trust of India, 2021). This is a guaranteed pension scheme administered and regulated by the Pension Fund Regulatory and Development Authority (PFRDA). The scheme ensures a defined pension based on the amount and duration of contribution. Despite being a popular social security initiative, many individuals are still not aware of APY Scheme, its benefits, eligibility, contribution, and operations (Devi.S, 2021). The present paper primarily focuses on analyzing the amount of money an investor would receive from Atal Pension Yojana after adjusting for the time value of money. The study also examines its benefits, eligibility, contributions and the current trend among the public towards the scheme.

Review of Literature

Social security programmes and pension

systems are now a need due to an ageing population and rising living expenses. The ageing population in India necessitates social security programmes and initiatives. Since 92 percent of workers are in the informal sector, conventional pension plans do not reach the majority of them (Unnikrishnan & Imai, 2020). Kaushal (2014) researched the impact of a recent increase in India's National Old Age Pension Scheme on senior citizens' well-being. According to him, state pensions have no impact on the employment of senior or almost elderly males with only a high school degree or less, but they have a negligible impact on the employment of similar women. Sudindra (2016) analyzed the feasibility of the subscription of Atal Pension Yojana as a retirement planning instrument demanding more co-contributions from Government to cater the needs of unorganized sector. Employees of both Government and private sector have favourable attitudes towards different aspects of APY scheme (Bhattacharjee & Rengma, 2020). Even though APY scheme provides various benefits, the majority of individuals are not aware about its benefits, eligibility, contribution, operations etc. (Devi.S, 2021). The contribution of older people to the development process must be acknowledged and encouraged if poverty and vulnerability in later life are to be reduced (Barrientos et al., 2003).

Objectives of the Study

1. To analyze the adequacy of the defined benefit plan under Atal Pension Yojana after adjusting for the time value of money.
2. To examine the current trend towards Atal Pension Yojana.
3. To examine the eligibility, contribution and benefits of Atal Pension Yojana.

Methodology

The study is primarily based on data from reports of the Ministry of Finance (2022), National Pension System Trust (2022) and Pension Fund Regulatory and Development Authority (2018). In order to assess the sufficiency of the defined benefit proposed by APY, Discounted Cash Flow Analysis is used.

Discounted Cash Flow (DCF) Analysis is a valuation technique used to estimate the attractiveness of an investment opportunity. Its analysis creates a present value by discounting projected future free cash flows, which is then used to gauge the viability of an investment (French & Gabrielli, 2005). Taking into account the tense global geopolitical situation and the consequently elevated commodity prices, RBI has projected inflation at 6.7 per cent in 2022-23, with Q1 at 7.5 per cent; Q2 at 7.4 per cent; Q3 at 6.2 per cent; and Q4 at 5.8 per cent, with risks evenly (Resolution of the Monetary Policy Committee (MPC), 2022). The study assesses the adequacy of the defined benefit proposed by Atal Pension Yojana by discounting the defined monthly pension assuming 4%, 6% and 8% inflation rates. This method aids in determining the worthiness of APY investment, as if the value determined by DCF analysis is greater than the investment's present cost, the opportunity may be worthwhile. Due to time value of money concept, DCF analysis is appropriate in any situation in which a person is paying money now with the expectation of receiving more money later. Tabular representation of data and graphical analysis are used to examine the eligibility, contribution and current trend towards APY.

Atal Pension Yojana

The Atal Pension Yojana is a defined contribution retirement savings scheme administered and regulated by Pension Fund Regulatory and Development Authority (PFRDA). The Government of India announced this scheme in 2015-16 budget. It focuses on employees in the unorganized sector to help them have a steady income after their retirement. The minimum age of joining APY is 18 years and the maximum is 40 years. The scheme allows any citizen of India between the above-mentioned age group to join through the bank or post office branches where one has a savings bank account.

Under APY, there is a fixed and guaranteed pension amount depending on the amount you save on a regular basis. For an initial period of 5 years (from FY 2015-16 to FY 2019-20) Central Government contributed 50% of the total contribution or Rs. 1000 per annum, whichever is lower, to each eligible subscriber account, who joined the scheme during the period from 1st June, 2015 to 31st March, 2016 and who are not covered by any Statutory Social Security Scheme and are not income tax payers. However, the scheme will continue after this date, but Government Co-contribution will not be available.

Table 1

Indicative Monthly Contribution Chart

Monthly Contribution towards APY to get a monthly pension of:					
Age of Entry	Rs 1000	Rs 2000	Rs 3000	Rs 4000	Rs 5000
18	42	84	126	168	210
20	50	100	150	198	248
25	76	151	226	301	376
30	116	231	347	462	577
35	181	362	543	722	902
40	291	582	873	1164	1454

Source: Pension Fund Regulatory and Development Authority (PFRDA)

As per the above Indicative monthly contribution chart, a person of age 18 years shall

contribute Rs. 42 per month to get a monthly pension of Rs. 1000 after retirement age. In this

way, a subscriber would receive a minimum guaranteed pension of Rs. 1,000, Rs. 2,000, Rs. 3,000, Rs. 4,000 and Rs. 5,000 per month after attaining the age of 60 years, depending upon his contributions. The same pension would be paid to the spouse of the subscriber after the demise of the subscriber and on the demise of both the subscriber and spouse, the pension wealth as accumulated till age 60 of the subscriber would be returned back to the nominee (Ministry of Finance, 2015).

Exit from the APY before 60 years of age is not permitted except for the demise of the beneficiary or terminal disease. Upon delay in payment of contribution, banks are required to collect charges varying from a minimum of Rs. 1 per month to Rs 10/- per month. A default in payment exceeding 6 months can render your account frozen; exceeding 12 months it will be

deactivated and after a default period of 4 months, the account will be closed.

Results and Interpretation

Discounted Cash Flow (DCF) Analysis

APY is a defined contribution retirement savings scheme. Discounted cash flow analysis is used to gauge how appealing an investment opportunity is. It is used to calculate the amount of money an investor would receive from Atal Pension Yojana after adjusting for the time value of money. Because, a dollar today is worth more than a dollar tomorrow. This research creates a present value by discounting future defined monthly pension, which is then utilized to assess the investment potential. The investment is worthwhile if the pension amount determined through DCF analysis is greater than the defined pension.

The following formula is used to calculate the discounted pension:

$$Actual\ discounted\ pension = \frac{Defined\ Pension}{(1 + Rate)^n}$$

Actual discounted pension: Pension after adjusting the time value of money.

Defined pension: The defined APY monthly pension ranging from Rs. 1000 to Rs. 5000.

Rate: Assumed inflation rates of 4%, 6% and 8%

n: Years of contribution

Table 2

Defined Pension Benefit of Rs. 1,000/- after adjusting inflation

Age of Joining	Years of Contribution	Monthly Contribution	Actual Pension of Rs. 1,000/- discounted @		
			8%	6%	4%
18	42	42	39	87	193
22	38	59	54	109	225
26	34	82	73	138	264
30	30	116	99	174	308
34	26	165	135	220	361
38	22	240	184	278	422
40	20	291	215	312	456

Source: Author's own Calculation.

Table 2 shows the present value of the defined monthly pension of Rs. 1,000/- when discounted at assumed inflation rates of 8, 6, and 4 percent respectively. From the analysis, it is evident that at

8% inflation rate, the difference between a discounted pension and respective monthly contribution is negative for all age groups. The same is positive at 6% and 4% indexation.

Table 3

Defined Pension Benefit of Rs. 3,000/- after adjusting inflation

Age of Joining	Years of Contribution	Monthly Contribution	Actual Pension of Rs. 1,000/- discounted @		
			8%	6%	4%
18	42	126	118	260	578
22	38	177	161	328	676
26	34	246	219	414	791
30	30	347	298	522	925
34	26	495	406	659	1082
38	22	720	552	833	1266
40	20	873	644	935	1369

Source: Author’s own Calculation.

Table 3 shows the present value of the defined monthly pension of Rs. 3,000/- when discounted at assumed inflation rates of 8, 6, and 4 percent respectively. From the analysis, it is noticeable that at 8% inflation rate, the difference between discounted pension and respective monthly contribution is negative for all age groups. The benefit is double the contribution at 6% and quadruples the contribution at 4% indexation if investment began at early ages. The benefit goes on decreasing as the age of joining increases.

Table 4

Defined Pension Benefit of Rs. 5,000/- after adjusting inflation

Age of Joining	Years of Contribution	Monthly Contribution	Actual Pension of Rs. 1,000/- discounted @		
			8%	6%	4%
18	42	210	197	433	963
22	38	292	268	546	1126
26	34	409	365	690	1318
30	30	577	497	871	1542
34	26	824	676	1099	1803
38	22	1196	920	1388	2110
40	20	1454	1073	1559	2282

Source: Author’s own Calculation.

Table 4 shows the present value of the defined monthly pension of Rs. 5,000/- when discounted at assumed inflation rates of 8, 6, and 4 percent respectively. From the analysis, it is clear that at 8% inflation rate, the difference between discounted pension and respective monthly contribution is negative for all age groups. The benefit is double the contribution at 6% and quadruples the contribution at 4% indexation if investment began at early ages. The benefit goes on decreasing as the age of joining increases.

From the above analysis, it is evident that the Atal Pension Yojana is not giving benefits to subscribers at 8% inflation rate. Even though the scheme provides benefits at 6% and 4% indexation, it is ideal for joining in the scheme at early ages as the benefit of the scheme is double and

quadruple at 6% and 4% inflation rates if invested in early age. Thus it is suggestable to join the scheme at early ages to avail the maximum benefit out of it. As inflation will erode the value of Pension amount over time, the pension under Atal Pension Yojana may be too small to cover the cost of living. The Government must index the subscriber contribution to inflation in order to prevent the pension fund of low-income consumers from depleting over time.

Potential Limitations

As with any methodology, the present

survey also has potential limitations. Despite being useful for investors to derive real values, DCF analysis has certain drawbacks. Assumptions are the foundation of DCF analysis. Inflation rates are assumed on the basis of RBI’s projected inflation of 6.7 per cent in 2022-23, with risks evenly (Resolution of the Monetary Policy Committee (MPC), 2022). As inflation rates are forecasted, they may change in future depending on the global geopolitical situations. This risk has been minimized to a certain extent by assuming three different inflation rates; 4%, 6% and 8% in the study.

Trend towards Atal Pension Yojana

Table 5
Current Status of APY

Particulars	No. of Subscribers (Lakh)	Contribution (Cr)	AUM (Cr)
Sep 2020	236.9	11585	13042
Sep 2021	312.9	16078	18649
Growth (%)	32.1	38.8	43

Source: Pension Fund Regulatory and Development Authority (PFRDA)

The total number of subscribers under Atal Pension Yojana (APY) increased from 236.9 lakh as on September 2020 to 312.9 lakh as on September 2021, recording a growth of 32.10 per cent over the year. The overall contribution grew by more than 38.8 per cent from 11585 Crore to 16078 Crore during the period September 2020 - September 2021. This shows an overall growing trend in Atal Pension Yojana Statistics over the years.

Enrolments under the Atal Pension Yojana

Table 6
Number of enrolments (category-wise) under the APY Scheme

Category of Banks	Mar-19	Mar-20	Mar-21	12 th Oct 2021
Public Sector Banks	10,719,758	1,56,75,442	2,12,52,435	2,43,90,974
Private Banks	1,145,289	15,62,997	19,86,467	21,21,377
Small Finance Bank	9,190	15,760	35,114	56,012
Payment Bank	48,182	3,44,001	8,18,800	10,93,602
Regional Rural Banks	3,171,152	43,30,190	57,10,770	64,15,150
District Co-op Banks	38,863	48,581	54,628	58,775
State Co-op Banks	1,053	4,620	5,350	5,604
Urban Co-op Banks	14,469	17,355	20,095	21,881
DOP	270,329	3,02,712	3,32,141	3,44,132
Total	1,54,18,285	2,23,01,658	3,02,15,800	3,45,07,507

Source: Pension Fund Regulatory and Development Authority (PFRDA)

According to PFRDA, Public Sector Banks accounted for the largest number of APY subscribers as on 12th October, 2021 i.e., more than Rs 2.43 crore. It is followed by Regional Rural Banks (64.15lakh subscribers), private banks (21.21 lakh), payment banks (10.93 lakh), the Department of Posts (3.44 lakh) and so on. From 10,719,758 enrollments in March 2019, Public Sector Banks achieved a growth to 2,43,90,974 in October 2021.

The states having APY account enrolment of 10 lakhs and more.

Table 7

States which have APY account enrolment of 10 lakhs and more as on 12th October 2021

Sl. No.	State Name	Number of APY Accounts(in Lakh)
1	Uttar Pradesh	51.9
2	Bihar	32.7
3	West Bengal	27.6
4	Maharashtra	26.8
5	Tamil Nadu	25.5
6	Andhra Pradesh	20.5
7	Karnataka	20.5
8	Madhya Pradesh	20.2
9	Rajasthan	17.2
10	Gujarat	14.3
11	Orissa	13.1

Source: Pension Fund Regulatory and Development Authority (PFRDA)

According to the above table, there are 11 states which have APY account enrolment of 10 lakhs and more. They are Uttar Pradesh (51.9 lakhs), Bihar (32.7 lakhs), West Bengal (27.6 lakhs), Maharashtra (26.8 lakhs), Tamil Nadu (25.5 lakhs), Andhra Pradesh (20.5 lakhs), Karnataka (20.5 lakhs), Madhya Pradesh (20.2 lakhs), Rajasthan (17.2 lakhs), Gujarat (14.3 lakhs) and Orissa (13.1 lakhs). There are many states in which enrolment is less than 10 lakhs. It implies that the acceptance of the scheme varies from state to state.

Age & Gender-wise distribution of Atal Pension Yojana subscribers

According to the Economic Survey 2021-2022, young people appear to have become more serious about saving for retirement. Enrolment to the Atal Pension Yojana (APY) at younger age has grown from 29% in 2016 to 43% in the

year 2021. Around 96% of NPS members, who belong to the youngest age group (18-25 years old), have opted for Atal Pension Yojana. Further, out of the total APY subscribers, 45 per cent are aged between 18 and 25 years. On the other hand, more and more people are opting for the basic pension amount of 1,000 per month. In September 2021, approximately 78% of subscribers opted for an amount of 1,000 per month, compared to 38% of subscribers in March 2016(Ministry of Finance, 2022). The gender gap in APY memberships has narrowed with an increase in proportion of female subscribers, down from 37% in 2016 to 44% in 2021.

Importance and Benefits of Atal Pension Yojana

Employees of public, private as well as unorganized sectors can contribute towards the APY scheme. Subscribers can customize their

pension plan in terms of the return required and contributions made. The guarantee of getting a pension amount of ¹ 1000, ¹ 2000, ¹ 3000, ¹ 4000 or ¹ 5000 on attaining the age of 60 years by the Government. On the death of the subscriber, the pension amount will be provided to his/her spouse or nominee. The subscribers to APY are eligible for an Income Tax benefit under section 80CCD of the Income Tax Act, 1961. The Atal Pension Yojana is basically secured as it is backed by the Government of India. The subscribers are not required to contribute in lump sum. An APY account can be opened online with a bank by using one's Aadhaar number known as E APY.

Conclusion

Over the past years, Atal Pension Yojana (APY) has emerged as the most popular social security scheme under the National Pension System with over 3.45 crore subscriber base. It aims at providing financial security to all Citizens of India, especially the workers belonging to the unorganized sector. The scheme has a growing trend in terms of no. of subscribers, total contribution and AUM. Atal Pension Yojana is a complicated scheme while considering the rate of return. The lack of Indexation is a major drawback of the scheme. As inflation will erode the value of Pension amount over time, the pension under Atal Pension Yojana may be too small to cover the cost of living. The Government must index the subscriber contribution to inflation in order to prevent the pension fund of low-income consumers from depleting over time. To combat this, Government and Banking Institutions should take collective initiatives. India has not yet truly established itself in terms of social security systems. The standards of social security programme implementation in India can and do rise with time (Srivastava & Mohanty, 2012). It is suggestible to join the scheme at early ages to avail the maximum benefit out of it. If these design flaws APY are addressed, even the most vulnerable will get benefited.

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