Conference Proceedings

AZADI KA AMRIT MAHOTSAV

International Conference on

Sustainability : Research, Education and Practice

(SREP - 2022)

Volume-3

Sustainability in Public Services & General Management

30-31 May, 2022

Organized by

DEPARTMENT OF MANAGEMENT

BIRLA INSTITUTE OF TECHNOLOGY

Mesra, Jaipur, Lalpur, Noida, Patna.

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Preface

We are honoured to write a Preface to this set of conference papers for the two-day International conference on '**Sustainability: Research, Education, and Practice (SREP-2022)'** on 30-31 May 2022 organized by the Department of Management, BIT Mesra, Jaipur, Lalpur, Noida and Patna Campuses under the aegis of Azadi Ka Amrit Mahotsav.

The conference presented a platform to the corporate and academia, who shared their insights on the theme. In the different technical sessions of the conference, participants shared their research, exchanged ideas, talked about the trends in the industry, and presented research papers and business cases. All this made the conference a truly enriching experience for the participants.

A total of 77 research papers and cases were presented in the conference.

Track I: Sustainability and Human Resource Management

The papers of this track contributed valuable insights about flexible work arrangement, green human resource management, employee engagements, stress management, work-life balance, and corporate-social sustainability. Most of the research papers at the conference were primarily associated with configuring HR Practices to the sustainability principles. The covid-19 pandemic has interrupted normal business processes and forced organizations to provide adaptable and flexible work arrangements (FWA) for employees. To fulfill the organization's strategic business objective, the vivacity of employees towards their job is of paramount importance. Therefore, the scholarly works at the conference majorly addressed the challenges related to employee engagement and organizational commitments. Stress plays a crucial role in fostering employees' performance in workplace. The scholars reflected on the importance of work-life balance and highlighted how work-related stress affects employee's performance.

Track II: Sustainability in Marketing Practice and Research

The papers of this track addressed interesting topics like the effect of service quality on customer satisfaction in hotel industry, customer attitude towards purchase of electric vehicles, factors making IPL as leading brand, awareness of digital coupons, study of post purchase regret on health insurance products in India, Green Durable Products purchase Behaviour of Indian Consumers, Over the Top (OTT) Services among Millennials in India etc., The scholars examined the gaps and emphasized the importance of incorporating sustainability in their respective domains such as; Papers related to **customer engagement and relationship management** focus on delivering great customer experience with the help of CEP and CRM, Papers associated with **social and digital media marketing** analyses the upcoming role of digital media and OTT platforms and papers associated with the **services marketing and e-commerce** focuses on service innovation and post purchase regrets.

Track III: Sustainability in Public Services and General Management

The third track addressed the various aspects and issues of Sustainability in Finance, Banking, Entrepreneurship, Public Services, Rural Entrepreneurship, Luxury, Yoga, and many more. The foreground of the research contribution under this track addressed interesting topics like Political Instability, diverse changes in the governmental policies and programs under various categories, Gender Diversity and its role in the overall economic development of the society, Psychological well-being and Digital Citizenship Behaviour, Energy Transition, Sustainability Oriented Entrepreneurial Intentions and People's perception about Sustainability as a concept.

The papers presented at the Conference on 'Sustainability: Research, Education and Practice' across all the domains contribute valuable insights to better understand the many challenges faced by organizations across the globe. The growing environmental, economic, and societal imbalances have been one of the baffling issues over the last few years. These papers make much-needed contributions to the academic and practitioner literature in an Indian context. Hence, directing us towards methods and measures that can help us balance the three helices of the overall global development and equity. These papers also provide many avenues for future research. It is hoped that future research will continue building on these insights.

From the Editors' Desk

The Industrial Revolution brought great progress to society and witnessed an increase in the global population, life expectancy, and output. But this unbounded growth over the period is endangering planetary support systems and increasing inequalities.

Now it is the need of the hour to explore transformational pathways that take a comprehensive people and planet approach to ensure a prosperous and healthy future for all on a resilient and healthy planet. Gradually and rapidly, awareness intensifies that the universally adopted Sustainable Development Goals can only be achieved through an unprecedented transformation of the economies, societies, and technologies worldwide.

Sustainability is a matter of need that requires the deployment of economic, political, social implements, technological innovations, and changes in lifestyles to bring about the needed transformational changes at every scale.

The concept of Sustainability was developed to create guidelines that allow the development of societies while preserving the environment. Its official definition was established in the Brundtland Report (1987), which states that Sustainable Development consists of meeting the needs of present generations without compromising the ability of future generations to meet their own needs. The concept is based on three aspects: society, economy, and environment. Transformations for sustainable development must be based on the reform of the relationship between these aspects i.e., society, economy, and the environment. New mindsets and behaviour must work towards a sustainable outlook.

Resource efficiency transformation seeks to bring together the objectives of environmental protection, economic growth, and social progress to ensure that economic activities stay within environmental limits. Social Justice transformation will move people from the periphery to the centre of economic and other decisions, ensuring that all people have access to the services and resources they need. The concept of sustainable education is based on the terms sustainability and education. This refers to an activity or process for acquiring or sharing knowledge or skills, developing the powers of reasoning and judgment, and intellectually preparing oneself or others for life. Realisation of a sustainable education paradigm requires vision, image, design, and action – at all levels – from all concerned with achieving healthy societies and ecologically sustainable lifestyles. This is relevant to the whole of education and learning. Economic structural transformations will boost the productive capacities of the region based on sustainable consumption and production patterns and more equitable distribution of the benefits of economic growth.

These transformations are mutually supportive and linked. For this what requires is much-needed policy coherence, which will reduce the potential for trade-offs between the sustainable development goals.

All aspects, elements, and fundamentals related to pillars of sustainable development and progressive transformation journey can be found in this edited book of research papers and case studies presented in a two-days International Conference on Sustainability: Research, Education and Practice (SREP-22), on 30-31 May 2022, organized by the Department of Management, BIT Mesra, Jaipur, Lalpur, Noida and Patna Campuses under the aegis of Azadi Ka Amrit Mahotsav. The Conference aimed at bringing together researchers, practitioners, and educators to exchange ideas on these pillars of sustainability.

This book is an outcome of 16 research papers presented at the conference on a plethora of issues concerning sustainability in the field of general management and public services during a technical session “Sustainability in Public Services & General Management.” The book covers all relevant and essential information on a young but important concept that is sustainability, and its application in general management and public services as well.

We are sure this edited book would make an interesting and rewarding reading.

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CONTENT

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1. E-Dina's Foresight: Ocean Lights to Navigate VUCA in Energy Transition

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***Abstract*:**

Introduction: With the global commitment towards UN Sustainable Development Goals (SDG's) through the avowed Nationally Determined Contributions (NDC's) by member nations and the recently released IPCC (Intergovernmental panel on climate change) report on anticipated climate change approach to be adopted, the area of clean energy technologies is drawing a focused interest. The intent to restrict the global temperature rise within trajectory of 1.5 deg. C. requires strategic and actionable steps under the seventh goal of SDG which portrays to "ensure access to affordable, reliable, sustainable and modern energy for all". Amidst the volatile, uncertain, complex and ambiguous (VUCA) scenario on the energy front, start-ups demonstrate potential to innovate localized solutions.

An incremental innovation may catalyze metamorphosis of a strategic thought into sustainable value creation having socio-economic impact.

Purpose: Community impact is key to acceptability of energy transition initiatives. People accept what affects them positively, takes them onward on path of sustainable development, and promulgates value addition to their mundane living. With the intent to explore these thoughts, the authors scouted to learn on energy transition initiatives across trans-national boundaries and arrived at the case of E-Dina, a start-up in Colombia, which has come up with an innovative product called Water Light for catering to the electricity needs for an indigenous community having their habitat in remote reaches of the country. The product can generate light from the salty ocean water. The foresight for harnessing the dormant scope in the abundantly available resource stock within local geography tilts the balance towards long term acceptance of this sustainable solution to clean energy access.

Methodology: For the purpose of unraveling the strategic posits of the case, the authors have gleaned information available in published resources on various platforms. The authors through the multi-source supplementation for the case study have attempted to dredge the flow of information, thus bringing forth the learnings via triangulation. The enticing tale of the initiative that proliferated establishment of a sustainable local ecosystem for the rural community leading to their socio-economic development is worth a hearing for explorers seeking empowering solutions to navigate VUCA in energy transition.

Findings and conclusions: Those remote communities still exist who are deprived of basic energy access, is a harsh reality despite progressive pursuits of mankind. This remains a challenge to mount where inclusiveness is elusive and fraught with the last mile linkages in the turbulent ecosystem of energy. The forward thinking of E-Dina and its evolving success fosters hope for those who believe that nature conceals the pathways for sustainable solutions. Finding local resource-based solutions are sure to become game changers in the marathon of energy transition, and the strategic tale of E-Dina and its Water Light reaffirms the belief in this thought. It is a clear case of foresight translated into actionable outcomes for a larger purpose and the scope of replication makes it all more endearing.

Keywords: *VUCA, energy transition, rural communities, start-ups, clean energy, foresight, E-Dina, Water Light*

1.1 Background:

The World Commission on Environment and Development (WCED) sowed the thought of present-day sustainability when in 1987 it brought out a report on the common future of mankind. The climate challenge and remedial measures required to mitigate environmental impact due to the escalated developmental pace of human lifestyle was at the core of the thought process.

The integration of sustainable development measures in policy mechanisms was conceived upon as a forward-looking present-day response (WCED, 1987; Nijkamp and Soetman, 1987; Gibbs, 2000; Dasgupta 2007).

After almost three decades, this translated into adoption of seventeen Sustainable Development Goals (SDG's) by UN member nations in its iconic Paris Climate change meet in 2015 (UN, 2015). With the subtle revelation of the interdependency across varied aspects of basic human requirements, wisdom dawned that isolated actionable would no longer work across geographies.

The need of the present was to set in momentum sustainability as a collaborative set of goals for arriving at future scenarios. In particular context of the study presented, the seventh goal under SDG aims to "Ensure access to affordable, reliable, sustainable and modern energy for all". Access to energy resources is a confounding problem for fledgling economies with approximately 1.2 billion people sans access to basic electricity needs across geographies (IEA, 2015).

1.2 VUCA:

Lack of access to electricity inhibits the transformational blooming of the socio-economic aspects in human lives across demographics on our planet. Decisive action paths to tread upon towards reaching the scenarios of future human habitats are thus needed to be crafted.

While the adoption of a dedicated sustainable goal towards energy provision is just a start, challenges evolve in the volatile, uncertain, complex and ambiguous (VUCA) (Bennet and Lemoine, 2014; Abidi and Joshi, 2015; 2018, Chauhan et al., 2021) energy sector landscape. These challenges need to be responded to with agility for achieving the aim for bringing about a decisive enhancement in the quality of life amongst the deprived populace (Surie, 2017). VUCA elements, bringing in disruptive changes in businesses, being beyond the comprehension of normal trends and forecasting models, thus require some different strategic approach in context of staying relevant to arriving times.

1.3 Strategic Foresight- Shaping Up:

The foresight to interpret and respond to weak signals of strategic discontinuities would be dependent on the mode of systematic information processing adopted by an individual or business (Ansoff et al., 1976). Ansoff (1982) with contribution on weak signals was amongst the first to have expounded on strategic foresight (Vecchiato, 2012) thus laying the base for further conceptualization in the subject domain.

Being relevantly related to future of evolving scenarios is crucial. Beginning from macro up to the micro aspects in engagement with the possibilities played out by decisive shifts in the socio- techno-economic ecosystem is the precursor to foresight. Hamel and Prahalad (1994) discuss that for enterprises focusing on creating future opportunities today, place themselves on a competitively advantageous pedestal in the long haul. Foresight as such is not concerned with future prediction (Vecchiato and Roveda, 2010). It is more of amalgamating tomorrow's stakeholders in today's action to make a conscious effort to carve out and shape up the intended pathways to reach the multiple scenarios of future those are yet to be arrived at.

The process of energy transition in itself can be construed to be a cob of entrepreneurial opportunities. The entrepreneurial firms venturing into this strategic sector, pitching in with innovative practices coupled with wealth creation and socio-economic growth opportunities in their demographic and geographic setup is definitely going to be a significant deciding factor towards the shift to a cleaner tomorrow.

Thus, there is a need to explore on the query for foresight deployment by entrepreneurial ventures in energy transition. It is quite believable that foresight will assist the stakeholders to plan for alternate future scenarios in terms of the outlook on energy transition as a whole. When an attempt is made to shape up or mould an ecosystem with a foresight (Courtney, 2001) towards the scenarios of a future, multi-faceted forces can alter the path of the transition. The decision needs to be made today on the path to be traversed.

1.4 Research Methodology:

The approach to be adopted for the research is intricately coupled with the principal research query and the researcher's outlook (Tenenbaum et al. 2011). In the present study, the authors attempt to explore an entrepreneurial venture which brought out an innovative product with the foresight for crafting sustainable future readiness aligned with the seventh sustainable development goal for energy.

The subject area of energy transition being exploratory in itself with compelling signs for multiple future scenarios drew the authors for adopting qualitative research for their study (Tenenbaum et al., 2011; Creswell, 2014).

The identification of the case for the entrepreneurial venture E-Dina has been based on its innovative solution of WaterLight for providing energy access towards enhancing living standard of a deprived populace. Serving the purpose for demonstration of replication potential is instrumental in the choice for the choice of the case by the researchers (Eisenhardt, 1989; Eisenhardt and Graebner, 2007). Further discussions by Yin (1994), Yin (2003) reveal that such typical cases harbour within itself learning wisdom which can contribute to delve on deliverables for the interest area of the research.

The business world in a VUCA context for start-ups is by nature unpredictable, however undoubtedly a robust model to respond will assist entrepreneurial ventures to be VUCA ready (Abidi and Joshi, 2015). The will to be a VUCA learner (Abidi and Joshi, 2018; Chauhan et al., 2021) is the key to successful venture.

The entrepreneurial ventures need to demonstrate strength and courage to follow through on their acumen to create the differential response to the natural flow of volatile conditions and letting go of the innate urge to implement control on an environment which is naturally chaotic (Hollingworth, 2015). The compass of foresight shall prove to be a potent navigational tool in the VUCA world (Joshi, 2019; Chauhan et al., 2021).

1.5 E-Dina and Water Light:

E-Dina is an entrepreneurial venture in Colombia and has collaborated with New York based creative agency Wunderman Thomson to bring out an innovative solution for clean energy (Website Wunderman Thomson, 2022). E-Dina operates with the underlying business philosophy of sustainable development and scouts on research projects that can make an elevating impact on the socio-economic growth aspect of remote communities.

It aims to leverage scope of processes for fuel replacement programs achievable through technological refurbishments/ conversions and make it available for wider benefit through technology transfer to interested stakeholders. The need to achieve economic sustainability for the firm is also an underlying objective to continue on the voyage to explore newer avenues for future of clean energy options (Website Edina, 2022). The idea for WaterLight was conceived in 2016. The known process of draining energy from salt water by using electrodes of a salt bridge was the underlying principle.

The innovation lay in the special design of the electronic circuit for ionisation from a saline medium for conversion into energy for immediate usage (Website Dezeen, 2022). The capacity was around 500 watts of energy from a litre of sea water. Based on the usage it is put to, the WaterLight is capable of producing power for 45 days from half a litre of sea water (Website Design week, 2022). WaterLight produces electrical energy when salt water electrolytes react with magnesium inside the device.

The device is waterproof and made from recyclable material and has an expected lifetime of around 5,600 hours which equates to two or three years of use (Website Fast Company, 2022). The Waterlight project has potential for scaling up on options such as extraction of higher energy content through interconnection of several units to a main base.

This can be further expanded as energy generation plants on the shore of beaches to produce energy for commercial purposes with supply chain viability. The residual effluents from this process provide additional economic value as fertilizers or drinking water. The energy requirement for desalination process is harnessed from the equipment. (Website Edina, 2022).

1.6 The Local Connect:

The La Guajira peninsula of Colombia is an arid desert region and in remote reaches of the country. It is inhabited by the indigenous Wayu community. They are also known as the people of the sun, sand and wind. Due to the difficult terrain, the region has been deprived of access to basic community services. Constrained economic resources have created societal gaps with no easy solution in view. The community is dependent on traditional craftwork for their economic sustainability.

The art of weaving is a means of preserving their cultural practice and inheritance from their ancestors as an expression for life as they see it (Website Culture trip, 2022). They are also dependent on fishing as a mean of livelihood. The region faces severe lack of basic electricity access. Deprivation from electricity access compromises on economic opportunities and living standards. Artisans are unable to weave during late hours towards order fulfillment. Fishermen find it difficult to go fishing during night hours. Education opportunities of the children get hindered (Website Intelligent Living, 2022). One thing which was available in abundance with the community is an extensive coast line of open sea.

The saline water though abundant across earth's surface is unusable directly in any known form. E-Dina through its WaterLight was able to harness this naturally abundant resource for providing sustainable and clean energy access to the community acting as a stable light source and able to cater small electrical requirements like mobile charging or tuning into a radio. The multi-faceted uses of WaterLight are as a Lamp, for catering to continuous activities, as an education enabler, as a fishing support and use as a battery up to some extent. The core idea was to replace traditional kerosene lanterns which are unsafe to use and cause environmental and health hazards. One differentiating point with solar light is that this device charges instantly when filled with saline water which is in bountiful abundance in the geography (Website India times, 2022).

1.7 Findings and Conclusions:

The thought of sustainability needs translation into action, the action brings desired outcomes leading to consequential changes amidst VUCA conditions. This fruition of responses to the challenges posed brings immense satisfaction to the initiators. E-Dina's WaterLight is an outcome of intertwined weaving of technology and innovation that a human mind is capable of. Such a thought imbibes the foresight to traverse the pathways towards a future of sustainable existence of mankind.

Geographies such as that of La Guajira peninsula exist across the geographies. While replication opportunities maybe based on specific need of communities, the idea of coming out with WaterLight is a definitive deployment of foresight by the entrepreneurial venture to navigate through the ocean of VUCA turbulence in energy transition.

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2. Trends in Environmental Reporting and Disclosure: ABibliometric Analysis

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Abstract:

The aim of the present paper is to determine the development of research trends on Environmental Reporting and Disclosure practices and is also facilitating in formulating future research questions for further development in this current domain. With the help of bibliometric analysis, the current paper tries to explore the untouched area. Bibliometric analysis is a well-accepted and accurate method for exploring and analyzing huge volume of scientific data (Donthu et al. 2021). For this, the data are collected from the Scopus database consists of 1941 Scopus indexed journals from the period 2000 to 2022. The data is processed and analyzed using the VOS viewer software to determine the bibliometric map. Various techniques such as Citation analysis, Co-citation analysis, Bibliographic coupling, Co-word analysis and Co-authorship analysis are used for presenting the bibliometric structure and the intellectual structure. The result shows that the number of publications on Environmental Reporting and Disclosure has increased significantly. Further, articles published in journals are the most common type of document that analyzes Environmental Reporting and Disclosure. The most popular keywords were Environmental Accounting, Environmental Disclosure, and Sustainability & Sustainable development.

Keywords: *Environmental Disclosure, Environmental Reporting, Bibliometric Analysis, VOS viewer*

2.1 Introduction:

In the 21stcentury, we probably are the first generation to feel the effect of climate change and the last generation who can do something about it. Various effects can be noticed due to environmental degradation such as climate change, depletion of ozone layer, greenhouse gases, chronic diseases, rising sea level and many more. According to the Organization for Economic Cooperation and Development (OECD) report, the air and greenhouse gases emission was 0.84 tones / capita in 2000 which is increased to 1.64 tones / capita in 2017. Air pollution exposure has also increased from 70.69 micrograms per cubic meter in 2000 to 83.30 micrograms per cubic meter in 2019. In addition to this, the mortality rate also increased from 364 to 717 per 10 Lakh inhabitants during 2000 to 2019 because of an increase in air pollution. So, there is an urgent need for giving attention towards environment protection. Keeping this in view, research in the field of environment and its protection has increased many folds.

As corporates are the major contributors for environmental pollution, researchers are interested to study about the Environmental Reporting and Disclosure practices of industries to find out a better and permanent solution. In the 21st century, the environment is one of the most sensitive topics to discuss because of rapid changes in industrialization. Industrialization is the pillar for economic development, while unplanned industrialization threatens the environment. As a result, environment degrades day by day and its protection is vital responsibility for each and every business industry. Industrialization is necessary for the economic development of the country, but economic development without considering the environmental aspects can cause damages that affect both the present as well as future generations (Das, 2016; Das, 2019). Economic development of a country depends on the success of business; business depends on the environment for all the factors of production, so there must be proper balance between business, environment and economic development.

In current scenario, the Indian manufacturing industries are contributing 16% towards GDP but the Government of India has increased the target for manufacturing companies, i.e., 25% by 2025. Therefore, this is a challenge in front of Indian industries to achieve industrial growth on a low carbon path. It is required to make policies in such a way that provides safeguard to both the economy as well as to the environment. It has been shown that there is an increasing demand for accountability and transparency in social and environmental issues. However, non-traditional and non-financial reporting practices are taken place to account for the social and environmental impact of organizations and their contribution to sustainable development (Unerman et al., 2007).

Industries are now introducing a separate environmental policy such as taking steps for pollution control; comply with the related rules and regulations, steps taken for energy conservation, steps taken for decomposing the production wastage, mention sufficient details of environmental aspects in their annual statements to give adequate information to the stakeholders. Now, companies are also turning towards environmental protection for attracting green investment, enjoying competitive advantages, ensuring long term strategic position and establishing better relations with stakeholders.

Now, the main question that comes to everyone's mind is how to overcome from these challenges. Therefore, the present study aims to carry out a bibliometric analysis of current literatures on Environmental Reporting and Disclosure practices which are published in different national and international journals which give an insight to assess the trends of past literature and also provide a way to draw the direction for future development. The paper is structured as follows: the paper begins with brief introduction to the topic followed by relevance and research questions. Next, the paper highlights the objectives and research methodology. The paper then explains the process of conducting a bibliometric analysis before concluding with its final remarks and limitations associated with this study.

Relevance of the Study: The present study believes immense importance so far; its findings are likely to helpful to the researchers to understand the historical perspective of the scientific progress and current research trends on the topic Environmental Reporting and Disclosure. This paper is also helpful to all the audience who are associated with this research field with the hope to promote further advancement of research in this specific area.

2.2 Research Questions:

In the light of the relevance of bibliometric analysis on Environmental Reporting and Disclosure, the following research questions require close scrutiny:

a. What does bibliometric data reveal about the current trend of publications in the area of Environmental Reporting and Environmental Disclosure?
b. Who are the top prolific authors and top prolific countries in this specific area of research?
c. Which key words are used most in this area of research?

Objectives of the study: The broad objective of the study is to examine the research trends on Environmental Reporting and Disclosure practices. However, the specific objectives formulated for the study are as follows:

- To present an overview of the bibliometric analysis with its various techniques in the field of Environmental Reporting and Disclosure.
- To examining the past studies and trending issues surrounding the research area.

2.3 Methodology:

In order to determine the research trends of publications in the field of Environmental Reporting and Disclosure, The Scopus (a broad and interdisciplinary electronic bibliographic database), was used to collect research publications. The period is '2000–2022' having more documents with high citations taken into consideration and the retrieval date was 23rd April 2022.

The paper analysis the research trends by using VOS viewer version 1.6.18 for bibliometric analysis. The present paper follows two steps process to cover all the aspects of our research objectives. First the process of data extraction as shown in the Figure 2.1 and second is the process of bibliometric analysis as shown in Figure 2.2

Figure 2.1: Process of data extraction

Table 2.1: Process for articles extraction

Study Phases	Description	Sample size
Search Strategy	Codes to be searched in the Scopus database, "Environmental Reporting" And "Environmental Disclosure" And "Environmental Accounting" OR "Green Accounting"	Preliminary result, (n=3146)
Selection criteria	Inclusion Criteria Number of years: 2000 – 2022 Documents types: Articles Source types: Journals Language: English	Articles excluded (n=1204)
Data extraction	Final data extracted from the Scopus database.	**Articles included (n=1942)**

Sources: Elaborated by the author on the basis of Scopus result

The term 'Bibliometric' was first created by Paul Otlet in 1934 and further defined by Broadus as "the quantitative study of physical published units or of bibliographic units or of the surrogates for either". In simple words bibliometric analysis was applied to observe the evolution of the scientific literatures and identify specific characteristics of the related knowledge domain (Pirri et al. 2020). There are two techniques for bibliometric analysis. First one is performance analysis and second one is science mapping. Performance analysis helps to analyze the contribution of research constituents such as the journal's annual publications, citation structure and the most cited papers as well as the leading authors, institutions, countries / regions; whereas, science mapping analysis focuses on relationship between research constituents like keywords of the articles published in Environmental Reporting & Disclosure and describes studies based on citations, co-citations and collaborations (Donthu et al. 2021).

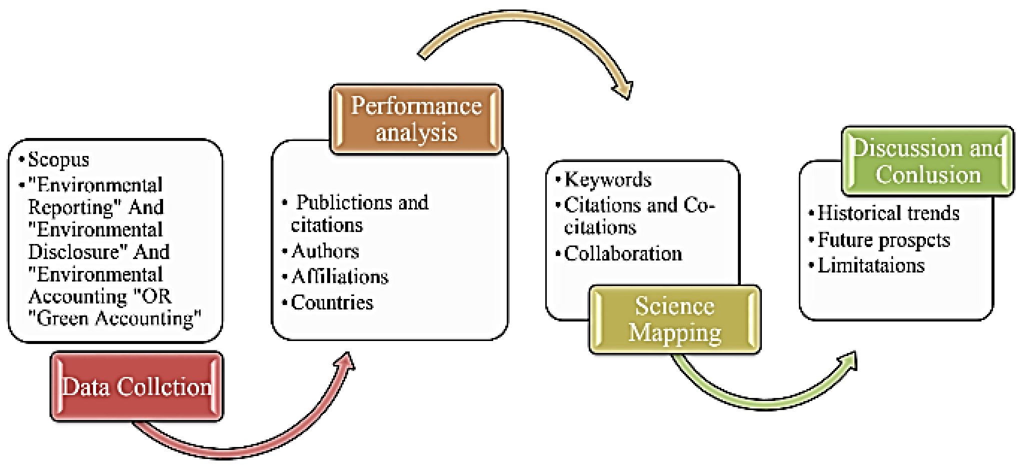

Figure 2.2: Process of Bibliometric Analysis

2.4 Data analysis and Interpretation:

2.4.1 Year – Wise Distribution of Published Articles on Environmental Reporting and Disclosure

To analyze the development trends in the field of Environmental Reporting and Disclosure, the number of publications over 22 years has been summarized in Figure 3. Before 2006, very few articles were published. But from the year 2006, the number of published articles had increased significantly up to 2020, i.e., 199.

This indicates the novelty of research concerning on Environmental Reporting and Disclosure. But the number of publications in 2021 is 180 which is less than previous year.

We can see there is a sharp decline in publication in 2022 because the data for 2022 is not complete as we retrieve data up to 23rd April 2022.

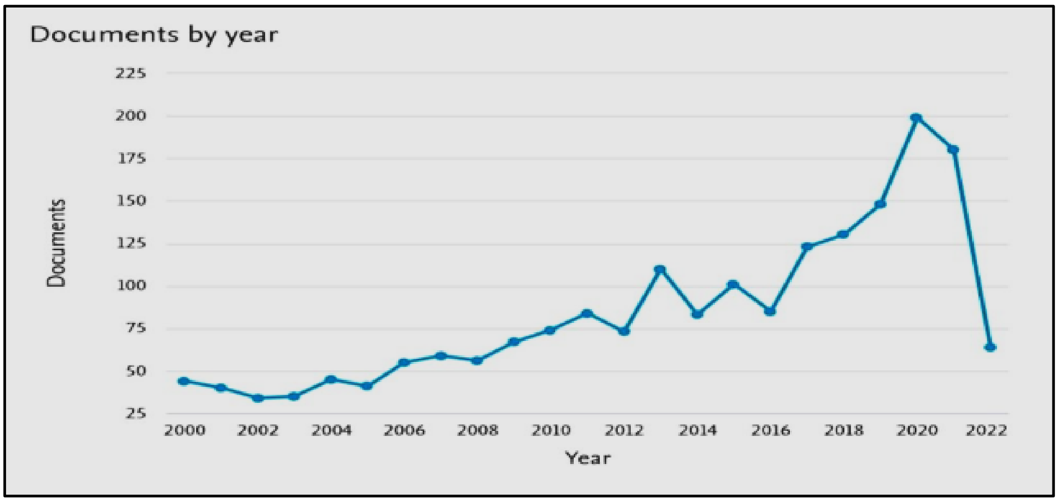

Figure 2.3: Trend in published articles on Environmental Reporting and Disclosure

2.4.2 Country – Wise Analysis:

Table 2.2 shows the top 20 countries that are the most influential countries in the field of Environmental Reporting and Disclosure with highest documents and citations.

The result shows that the United Kingdom is the most influential country to publish literature in the field of Environmental Reporting and Disclosure in Scopus, with the highest total publication which is followed by the United States and Australia.

In the Table 2.2, there are top 20 countries out of which India took 17th place by publishing only 43 articles which need more research in this research domain.

Table 2.2: Most influential country

Country	Documents	Citations
United Kingdom	289	16845
United states	283	17456
Australia	251	11130
Italy	177	6208
China	136	2171
Canada	121	8718
Spain	107	4510
New Zealand	84	4342
Malaysia	76	1457
Brazil	61	1069
Germany	60	1069
France	59	2207
Indonesia	59	322
Netherlands	48	4900
South Africa	46	1047
India	43	500
Finland	36	1185
Sweden	31	1768
Japan	27	634

Source: Own compilation based on the record extracted from the Scopus

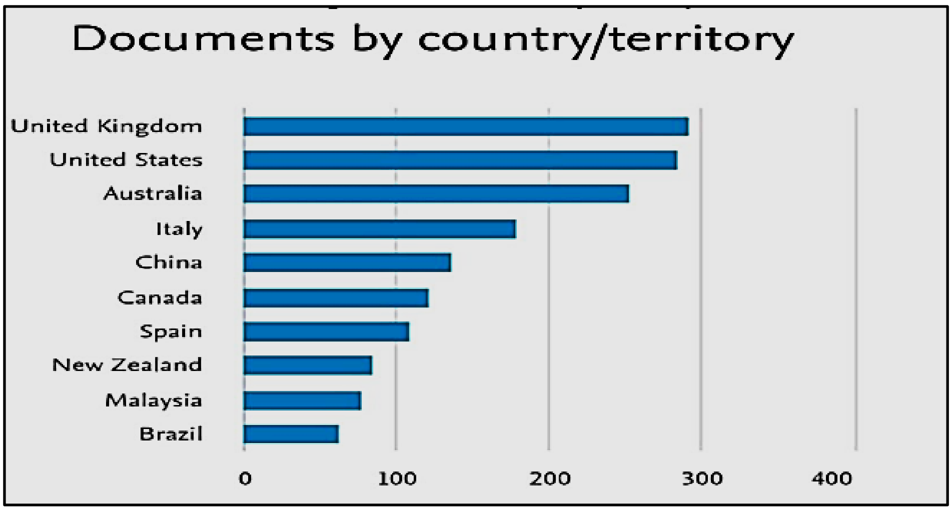

Figure 2.4: Documents by Country

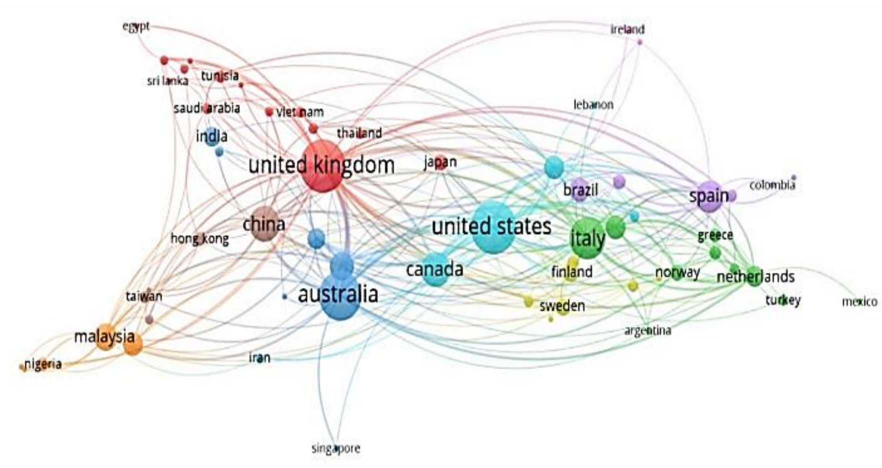

Figure 2.5: Network diagram of countries for Environmental Reporting and Disclosure

Keywords Analysis:

Keywords in an article reflect the significant content of the study with several words. Thus, the co-occurrence and intensity analysis of keywords of a research field make possible to identify the research hot spots and frontiers (Chen et al. 2017). Figure 2.6 visualizes the collection of keywords that are often used in Environmental Reporting and Disclosure literatures. This finding is important to understand the context being discussed in the literature comprehensively. We selected 5 occurrences for each keyword and generated 551 keywords. The keywords with larger size of the node indicate the high level of occurrence, i.e., most commonly used in Environmental Reporting and Disclosure literature. Based on the result, “Environmental Accounting” is the most influential words, followed by “Sustainable Development”, “Sustainability” and “Environmental Disclosure”. In addition to this, the collection of keywords in Figure 2.7 depicts the year wise work on keywords. In the overlay visualization, the color of an item is determined by the scores of the item, were, by default color ranges from blue (past research) to green to yellow (recent research).

Table 2.3: Top 15 Keywords with its occurrences

Keyword	Occurrences
Environmental Accounting	297
Sustainable Development	223
Sustainability	219
Environmental Disclosure	214
Environmental Reporting	194
Environmental Economics	162
Corporate Social Responsibility	133

Keyword	Occurrences
Environmental Performance	109
Environmental Impact	97
Environmental Accountings	85
Environmental Policy	81
Environmental Protection	80
Corporate Governance	71
Corporate Strategy	67
Green Accounting	64

Source: Own compilation based on the record extracted from the Scopus

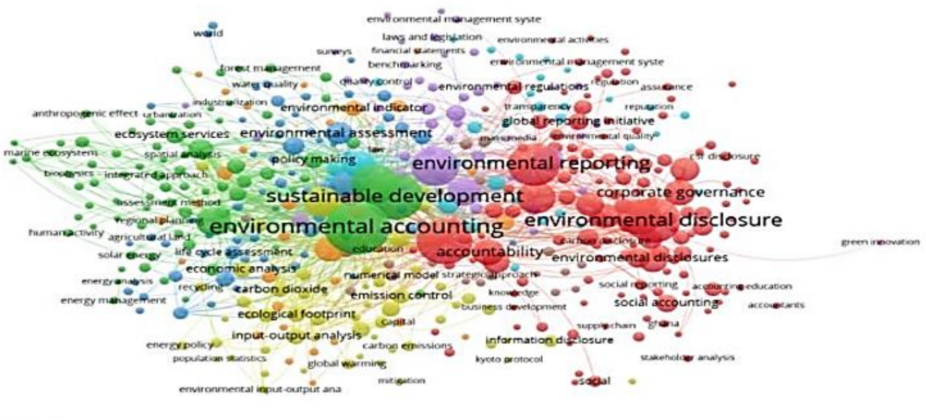

Figure 2.6: Co-occurrence analyses of keywords

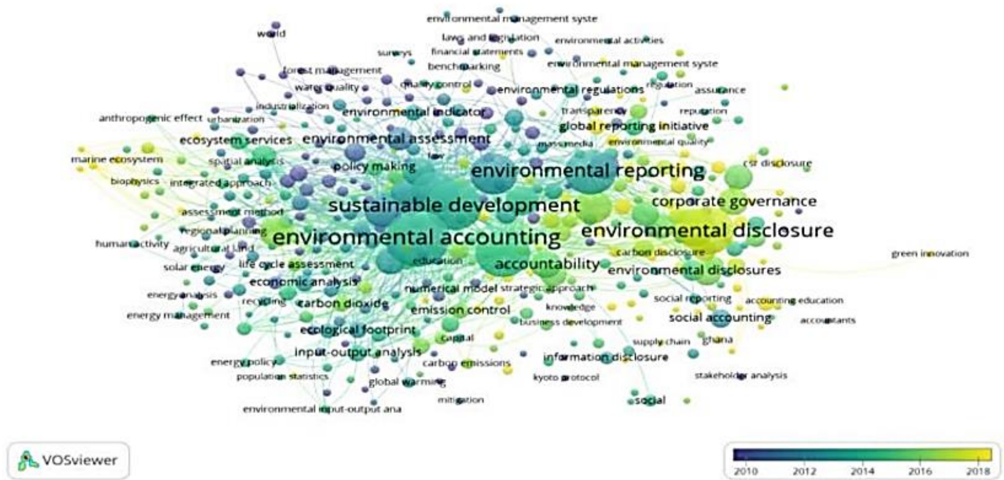

Figure 2.7: Year wise key words occurrence

2.4.3 Sources of Publication:

This section describes the distribution of publication from different journals. Table 2.4 shows the most influential journals that have published articles in the field of Environmental Reporting and Disclosure. The most productive journal is found to be "Accounting, Organizations and Society" followed by "Accounting, Auditing and Accountability Journal" and "Journal of Cleaner Production". These are expected to be the top journals and are also high-ranking publishers in this research domain.

Table 2.4: Most cited journals with their citations and documents

Source	Documents	Citations
Accounting, Organizations and Society	18	7344
Accounting, Auditing and Accountability Journal	84	5699
Journal of Cleaner Production	92	4630
Business Strategy and the Environment	88	4588
Ecological Economics	43	3433
Journal of Business Ethics	34	3182
Critical Perspectives on Accounting	45	2682
British Accounting Review	23	2535
Accounting Forum	37	2291
Corporate Social Responsibility and Environmental Management	38	2288

Source: Own compilation based on the record extracted from the Scopus

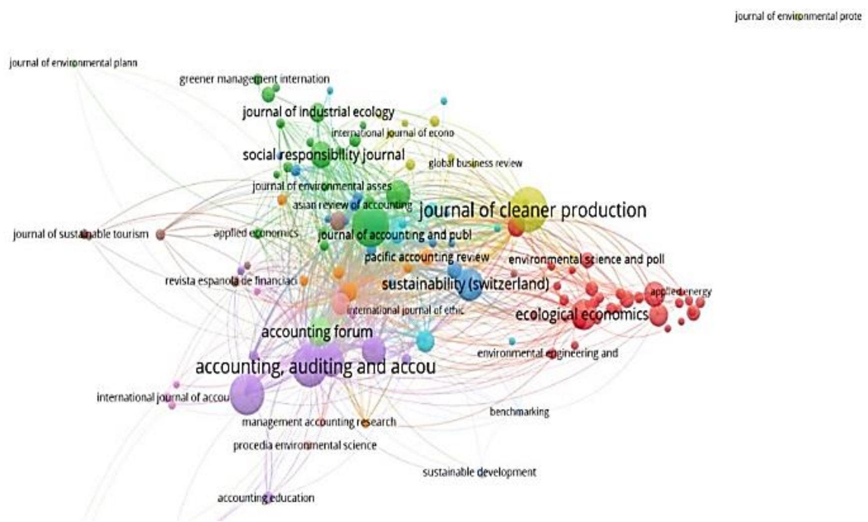

Figure 2.8: Network diagram of most influential journal

2.4.4 Authorship Analysis:

According to the analysis articles during 2000 to 2022, authors with more than 3 publications are considered for the study. Table 2.5 shows the most cited author in the field of Environmental Reporting and Disclosure who contributed to publishing influential articles. Based on Table 2.5, Patten D.M. (29 articles), Cho C.H. (23 articles), Cormier D. (15 articles) are the three top most authors who have highest documents and citations.

Table 2.5: Most cited authors with their citations and documents

Author	Documents	Citations
Patten D.M.	29	3565
Cho C.H.	23	2539
Cormier D.	15	2310
Clarkson P.M.	4	2101
Magnan M.	13	1960
Li Y.	3	1811
Gray R.	11	1681
Boyd J.	5	1556
Roberts R.W.	11	1198
Bebbington J.	10	1196

Source: Own compilation based on the record extracted from the Scopus

2.4.5 Major Findings:

The major findings of the present study may be enlisted as follows:

- The annual publication on Environmental Reporting and Disclosure shows a significant rising trend after 2006.
- The result shows that the United Kingdom is the most influential country to publish literature in the field of Environmental Reporting and Disclosure in Scopus, with the highest total publication which is followed by the United States and Australia.
- It is further found from the study that, “Environmental Accounting” is the most dominating word, followed by “Sustainable Development”, “Sustainability” and “Environmental Disclosure”.
- The most productive journal on Environmental Reporting and Disclosure is found to be the “Accounting, Organizations and Society” followed by “Accounting, Auditing and Accountability Journal” and “Journal of Cleaner Production”.
- The citation analysis identified Patten D.M. (29 articles), Cho C.H. (23 articles), Cormier D. (15 articles) are the most influential authors in the field of Environmental Reporting and Disclosure.

2.4.6 Limitations:

Using only one indexing database, namely, Scopus may be considered as the primary limitation of this study. Similarly, the inclusion of articles published in journals alone may be regarded as the other limitation of the study.

2.5 Conclusion:

The current study aims to present an overview of bibliometric analysis in the area of Environmental Reporting and Disclosure. Bibliometric analysis provides a picture of scientific research which will help in the evidence-based description, comparison and visualization of research output. The visual and network diagram presented in the paper is helpful to assess the result of the analysis.

The analysis can help to clarify the past studies and trending issues surrounding the research area. This study which covered a period of 22 years from 2000 to 2022, reveals that there is a significant increase in the annual publication on Environmental Reporting and Disclosure after 2006.

Similarly, concerning the nationalities of the authors, it can be seen that the United Kingdom, the United States and Australia are the top three contributing countries in the field of Environmental Reporting and Disclosure. “Environmental Accounting” is the most dominating word, followed by “Sustainable Development”, “Sustainability” and “Environmental Disclosure”. Further, this research found that “Accounting, Organizations and Society” followed by “Accounting, Auditing and Accountability Journal” and “Journal of Cleaner Production” are the top three leading journals in the field of Environmental Reporting and Disclosure.

At last, this article identified the most influential authors in the field of Environmental Reporting and Disclosure are Patten D.M. (29 articles), Cho C.H. (23 articles), Cormier D. (15 articles). The paper concluded that Environmental Reporting and Disclosure practices are the most sensitive topic for which all countries must come forward to find out the better and permanent solution to save our environment.

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3. Yoga: A New Sustainable Approach towards a Healthy Lifestyle

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Abstract:

Sustainable living is a way of livelihood by bringing positive changes in lifestyle and habits. To adopt a sustainable lifestyle and habits, learning and practicing yoga is a precious key that can boost the overall health and well-being of an individual. COVID-19 crisis brought the greatest challenge to the mankind has ever faced after Second World War. It is an unprecedented experience for all the citizens living in different parts of the globe and as well as in India. People who were found COVID positive, observed drastic change in their mental and physical behavior.

During the period of quarantine and isolation, people understood the importance of healthy lifestyle. The aim of this research work is to explore the application of yoga practices for sustainable living. The current study identified the key factors which changed the lifestyle of those people, who were affected by the COVID-19 virus and observed the changes in their behavior by learning and practicing yoga.

The period of study was during the second phase of COVID-19 pandemic, and the methodologies used were descriptive statistics and exploratory factor analysis. A total of 492 respondents, those who were found COVID positive and now recovered were considered for the analysis. The result of factor analysis highlights the important factors which were found prominent in the study. It includes mental and physical fitness, peace of mind, behavioral changes, and improved work performance. The findings will be useful for the people to overcome from mental and physical stress in post COVID world.

Keywords: *Covid-19, Lifestyle, Sustainable living, Yoga.*

3.1 Introduction:

The World Commission on Environment and Development defines sustainable development as fulfilling the needs (Nambiar et al., 2020) of the present generation without compromising the capability of future generations to meet their future needs. Sustainable development comprises of economic, social and environmental concerns. In other words, we can say that sustainability is based on three pillars of society, i.e., economic, social and environmental. Sustainability living brings positive changes in the lifestyle (Nambiar et al., 2020) of an individual in a social environment (Bentlage et al., 2020). One of the precious keys of a sustainable lifestyle and habits is learning and practicing yoga (NCCIH, 2021) which makes an individual healthy.

Yoga is a devout stream whose roots lie in extremely subtle science (Williams et al., 2005). It acts as a bridge between self and universal consciousness, indicative of balance among mind, body, and soul (NCCIH, 2021). For healthy living (Scully et al., 1998) yoga is one of the perfect sciences as well as art. Yoga originates from the Sanskrit word "yuj" which literally means union, and to direct and focus individual attention (Williams et al., 2005). Strength, endurance, and flexibility can be increased by practicing and learning yoga. Regular practice of yoga promotes compassion and greater self-control in a person (NCCIH, 2021) with a sense of well-being and calmness (Paap et al., 2016). Being a regular practitioner of yoga one can experience self-awareness with enhanced energy level to live life joyfully (Paapet al., 2016).

Yoga rejuvenates the entire physiology of a person one can easily feel a sense of balance between mind, body and soul (NCCIH, 2021). The one who is able to establish this oneness of existence with the help of practicing yoga is said to be yogi, and prima facie qualifies to attain Mukti or Moksha (liberation), Nirvana (unbind) (Desikachar K, 2005). Yoga is well known for its poses and postures it is a blend of mind-body fitness (Acharya et al., 2021) which involves muscular activity and expanding spiritual energy using mental focus and breathing methods (Woodyard, 2011).

Four basic inferences lie beneath the knowledge and practices of yoga's healing system (Acharya et al., 2021). The first inference is that physical body is a system of various interconnected subsystems, and the state of one subsystem affects another in both positive as well as negative ways.

The second inference is that each individual is unique so do his need and this uniqueness must be kept intact and within the circumference of this uniqueness practice of yoga must be made. Yoga helps in healing the individual; it heals the individual from the inside rather than focusing on outside healing is third inference. The fourth inference is that a mind set is important in a healing process, if an individual has positive mind set his recovery will be at greater pace as compared to one who has negative mind set (Woodyard, 2011).

In the wake of the COVID-19 outbreak, entire mankind across the globe is suffering. Enhancing the body's natural defense system (immunity) plays an important role (Mazyarkin et al., 2019) in maintaining optimum health.

3.2 Review Literature:

Yoga is one of the oldest methods of exercise developed thousands of years ago. In yoga all the elements of body are linked with mind and helps practitioner to interact with inner self. The human body and soul get connected through yoga which helps to ease stress (Bavel et al., 2020) and pressure. Yoga gives a direction about how to live and takecare of our self during uncertainty. Yoga talks about four pillars of health and these pillars are called as Ahar (Food), Vihar (Rest & Relaxation), Achar (Healthy Routines) and Vichar (Thoughts) (Acharya et al., 2021). During the pandemic, our primary concern is how to perk up the immune system. The COVID-19 pandemic taught an important lesson (Varshney et al., 2020) to human beings which they had already known 'Health is Wealth' but not adopted in their lifestyle. Yoga helps in finding out proper sleep, healthy nutrition (Ammar et al., 2020a), boosting immunity and leading a stress-free life (Ammar et al., 2020b). During COVID-19 government of India issued advisory regarding travel restrictions which resulted in panic around the society. Negative news spread all over the media in terms of getting infected by COVID. Yoga brings a solution for us to maintain healthy lifestyle and to counter the spread of the virus. The COVID-19 pandemic witnessed a dramatic shift in the people's lifestyle (Varshney et al., 2020) and disrupted daily routines (Chen et al., 2020) due to remote working, travel restrictions and stringent social distancing and self-isolation (Begun et al., 2018, Xiao et al., 2020). Lifestyle can never be the same as past; COVID-19 crisis pushes us on another path, such as not being able to travel that freely or enjoy the supply chains of the world so easily. Sustainability, solidarity (Durski et al., 2020) and healthcare (Garg et al., 2020) will finally take center stage in post COVID world (Hebbar et al., 2020). As per the study of (Narwal et al., 2020) there will be changes at every level of our lives, from new habits like washing hands to better overall hygiene and new travel habits.

The devastation of COVID-19 changed our daily routine in unprecedented ways (Xiao et al., 2020) and human beings are fighting for survival (Dwivedi et al., 2020). Immunity passport has an interesting ring to it for the people (Jurak et al., 2020) who are affected by corona virus. Government of India (MINISTRY OF AYUSH) issued a detail guideline for yoga practitioners for COVID-19 (MoHFW, & GoI, 2020). The guideline discusses about different yoga practices, Do's & Don'ts and the benefits after learning and practicing yoga. Common yoga protocol is available for COVID patients during quarantine and home isolation (MoHFW, & GoI, 2020) to counter fear and anxiety. Guidelines issued by (MoHFW, & GoI, 2020) different Kriyas, Asanas, Pranayama and Dhyana and the required time duration mentioned for the yoga practitioner in the document. The current study observed the impact of learning and practicing yoga during COVID-19 on lifestyle of people.

3.3 Research Methodology:

An extensive review of the literature review has found the diverse dimensions of healthy lifestyle behavior at the time of crisis. For the current study questionnaire method of data collection was used. The questionnaire was circulated online to the yoga practitioner for the purpose of exploring the constructive changes that have occurred after learning and practicing yoga during COVID-19. Practitioners who are practicing yoga after being affected by COVID-19 were considered as major respondents. Pilot study was conducted before conducting the final survey to check the validity of the content and appropriateness of questionnaire. Experts from healthcare, psychologist and yoga practitioners were considered as the respondents for the pilot study. The effectiveness of the questionnaire was enhanced with the feedback and comments of the experts during pilot study.

3.4 Data Collection:

A combination of purposive and convenience sampling method was used for data collection. An online survey was conducted in the top 5 cities of India that reported the highest number of COVID cases during the second wave (Business Insider 2021). These cities are Delhi, Pune, Bengaluru, Mumbai and Nagpur.

3.4.1 Questionnaire Design and Construct:

The total 552 questionnaires were circulated out of which 492 respondents filled and participated in the online survey. The first section of the questionnaire includes the demographic and screening question: “Have you started learning and practicing yoga after COVID-19 Pandemic?” If respondents answer is ‘No’ then they do not proceed further. The purpose for adding this question was to screen the participants. The respondents with answer ‘Yes’ moved forward to the next section (Part B) of the given questionnaire Details of the questionnaire survey are summarized in Table 3.1.

Table 3.1: Survey Instrument

Sr. No.	Variables	Description	Number of questions	No. of Items
1.	Part A: Demographic	Respondents Profile	1-3	3
2.	Part B: Basic Question	Learning & Practicing Yoga (LPY)	1-5	5
Part C: Dependent & Independent Variables				
3.	Learning & Practicing Yoga (LPY) - Dependent Variable		1-4	4
4.	Mental & Physical Fitness	Is LPY improves Mental &Physical fitness	1-6	6
5.	Boosting Immunity	Is LPY Boost Immunity	1-6	6
6.	Behavioral Change	Is there any change observed in behavior	1-6	6
7.	Healthiness	LPY improves health	1-6	6
8.	Work Performance	Is LPY improves work performance	1-5	5

Source: Author’s findings

3.4.2 Data Analysis:

Harman's single factor was used to measure Common Method Bias (CMB) (Podsakoff et al. 2003). Exploratory Factor Analysis was used by applying unrotated principal component and restricting the solution to a single factor.

The factor explained 31.39% of the variance, which satisfies the criteria to be less than 50% for CMB (Dubey et al., 2020). As a result, 492 respondents between the age group of 18 to Above 60 years were found significant for this research. The questionnaire was divided into three parts. The first part constitutes the demographic profile of the yoga practitioners. The second part of the questionnaire constitutes basic questions that were asked from yoga practitioners to explore their awareness about learning and practicing yoga. The third part of questionnaire constitutes five independent variables which further constitutes twenty-nine sub variables. Respondents were requested to prioritize the variables considered by them, as factors influencing learning and practicing yoga during the COVID-19 pandemic. The study uses a five-point Likert (Rishi et al., 2021) rating scale. Detailed demographic characteristic of the respondent is presented in Table 3.2. Table 3.3 shows respondents' knowledge about learning and practicing yoga.

Table 3.2: Profiles of the respondent

Demographic Characteristic		N	%
Gender	Male	348	70.7
	Female	144	29.3
Age	18-30	124	25.2
	31-45	172	35.0
	45-60	136	27.6
	Above 60	60	12.2
Education	Higher Secondary	19	3.9
	Graduate	282	57.3
	Post Graduate	171	34.8
	Ph.D.	20	4.1

Source: Author's findings

Table 3.3: Knowledge of Learning and Practicing Yoga

Questions		N	%
Reason for learning and practicing yoga after COVID-19 pandemic.	Mental fitness	156	31.7
	Physical fitness	261	53.0
	Reduce stress	75	15.2
Which yoga practices do you prefer?	Pranayama	154	31.3

Questions		N	%
	Yogacara's	195	39.6
	Dhyana (Meditation)	143	29.1
Duration of yoga practices.	More than 20 Minutes	323	65.7
	More than 30 Minutes	111	22.6
	More than 40 Minutes	58	11.8
Have you started attending virtual yoga classes during pandemic?	Yes	321	65.2
	No	171	34.8

Source: Author's findings

Bartlett's test of sphericity and Kaiser-Meyer-Olkin (KMO) are applicable in the study to know the suitability of factor analysis as Bartlett's test of sphericity observes that the factors are highly correlated and is useful in testing sample adequacy. It is considered inadequate if the value is less than 0.50 (Hair et al., 2015). The results of Bartlett's test of sphericity are significant ($p<0.001$, $p=0.000$). Kaiser-Meyer-Olkin measure is greater than 0.5. It is found to be 0.926. Bartlett's test of sphericity is significant. The chi-square statistic is 7319.870 with 406 degrees of freedom, which is significant at 0.000 level. Hence it can be considered that the sample is suitable and satisfactory for factor analysis.

Table 3.4: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.926
Bartlett's Test of Sphericity	Approx. Chi-Square	7319.870
	Df	406
	Sig.	0.000

Source: Author's findings

3.5 Factor Analysis and Results

The purpose of factor analysis is to examine the data gathered from questionnaires which has changed the lifestyle of people by regular learning and practice of yoga for those who were found COVID-positive during the pandemic.

It compresses the large data into relevant information required for the study. The variables are categorized according to similar qualities. In Table 3.5 extracted six factors explain 62.225% of the total variance.

These nine factors consist of twenty-four variables as only those variables are considered for the study whose factor loading is more the 0.50 (Hair et al., 2015). Table 3.6 shows the factor loadings of variables and the percentage of variance explained.

Table 3.5: Total Variance Explained

Component	Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	10.928	37.682	37.682	3.896	13.435	13.435
2	2.255	7.776	45.458	3.747	12.920	26.356
3	1.609	5.549	51.007	3.626	12.505	38.860
4	1.152	3.971	54.978	3.211	11.071	49.932
5	1.081	3.727	58.706	1.801	6.211	56.143
6	1.021	3.520	62.225	1.764	6.083	62.225

Source: Author's findings

Table 3.6: Factors loadings of variables with percentage of variance explained

Sr. No.	Factors	Variables	Factor Loadings	Percentage of variance Explained
1	Health and Well-Being(Sahni et al.,2021)	Understanding towards Organic, natural and fresh products. Understanding towards healthiness. More disciplined person. Practicing yoga reduces stress level. Improves quality of sleep.	.760 .739 .731 .675 .501	37.682
2	Effectiveness in Decision-Making (Rishi et al.,2021)	Decision making skills. Reduces fatigue and boredom. Improve thinking and understanding ability towards work. Reduces pandemic anxiety level. Reduces frustration level. Improves daily routine. Improves work time management.	.712 .698 .656 .576 .555	7.776

Sr. No.	Factors	Variables	Factor Loadings	Percentage of variance Explained
			.541 .521	
3	Mental and Physical Fitness (Kaur et al., 2020)	Emotionally stronger than before doing yoga. Refreshes body and mind. Improves mental stability. Improves physical fitness. Improves concentration level.	.774 .730 .659 .650 .643	5.549
4	Improves Work Performance (Nagarathnaet al., 2021)	Boosting immune system. Reduces my anger level. Helps to come out from laziness. Improve my work efficiency.	.725 .642 .620 .536	3.971
5	Confidence and Relaxation (Umesh et al., 2021)	Improves the level of confidence. Feel of relaxation.	.651 .604	3.727
6	Inner Peace (Upadhyay et. al., 2021)	Improves in gaining inner peace.	.769	3.520

Source: Author's findings

Following is the description of success factors related to learning and practicing yoga during COVID-19.

3.5.1 Health and Well-Being:

Yoga helps in keeping your body healthy, in the form of mentally and physically (Sahni et. al., 2021). Regular practice of Yoga makes you move and makes us fit by burning calories. It helps to overcome every type of weight problem. Yoga motivates the individual to become more conscious towards their eating habits (Durski et al., 2020) and thus makes individuals more disciplined and sincere. Individuals practicing yoga are more aware of the importance of consuming organic, natural and fresh products. Another aspect of maintaining the well-being of an individual is to cope up from stress (Bentlage et al., 2020). Sciences have proven earlier also that yoga act as an excellent measure to get relieve from stress. Yoga constitutes not only the physical practice but also the breath improving exercises, meditation, chanting work and sound exercises which decrease tension, anxiety, and stress.

A stress-free person can have a proper sleep (Garg et al., 2020). The measurement of sleep can be considered from the person's ability to stay asleep and fall asleep. Various studies have contributed that Yoga helps in improving the sleeping pattern of an individual.

3.5.2 Effectiveness in Decision Making:

Past studies have proven yoga helps in making better choices from the available alternatives and thus facilitates effective decision-making (Rishi et al., 2021). It aids individuals in making smarter selection. In this regard it can be said that yoga not only maintains the physical body but also sharpens the mind of individuals for better decision-making. As per the findings of (Varshney et al., 2020) individuals improved the day-to-day affairs of their personal and professional life.

It is important to manage anxiety of individuals as it is one of the prominent disorders observed in human beings. The anxiety can be general, specific or social anxiety and even stress (Bavel et al., 2020). Yoga aids in the effective treatment of anxiety disorders which helps an individual to make wise decisions. Adequate decision-making by an individual reduces frustration levels and thus helps in managing the daily routine (Narwal et al., 2020) of an individual resulting in improved time work management. Yoga stretches are helpful in increasing the blood circulation in the body, which in turn is helpful in decreasing fatigue and tiredness, resulting in better energy levels. Thus, it results in an increase in overall quality of life by improving thinking ability and understanding towards work.

Quality of life means the fulfillment of goals and expectations (Narwal et al., 2020) by individual's set by them. Better quality of life results in creativity, improved relationships, creativity and learning opportunities.

3.5.3 Mental and Physical Fitness:

Previous studies reveal that regular practice of yoga enhances the coordination, remembrance and mental fitness (Kaur et al., 2020) of an individual. Individuals are able to focus and concentrate more on the present. Meditation and Yoga practice demonstrate the ability of quick problem solving, memorizing, and recalling information Woodyard C. (2011). They are less distracted by external factors and the environment and have control over their thoughts (Ammar et al., 2020b) and thus become more mentally and emotionally stronger.

Yoga refreshes body and mind in every aspect of living as an individual including the improvement of self-esteem and attitude and overcoming the symptoms of depression, anxiety and obsession (Acharya et al., 2021). A healthy mind results in a healthy body. Yoga improves physical fitness also along with mental fitness. Yoga helps an individual to enhance awareness related to the body including the type of workouts and exercises adequate to keep an individual fit. The appropriate fitness level helps in maintaining the work-life balance (Jiménez-Pavón et al., 2020) of an individual by a significant improvement in physical activity of an individual. Practicing yoga on a regular basis improves the concentration level and thus sharpens the mental focus and helps to overcome difficult situations

3.5.4 Improves Work Performance:

Individuals have an advantageous edge that practices yoga on a daily basis in terms of increased concentration. Individuals become more productive (Xiao et al., 2020) by enlarged creativity and focus and support broaden expression of resourcefulness (Begun et al., 2018). Blood circulation through yoga makes individuals energetic (Jiménez-Pavón et al., 2020) and results in lesser fatigue. An energetic person depicts a better approach and frame of mind towards personal and professional work.

Past studies also reveal that yoga and meditation is helpful in building a strong immune system of an individual. Yoga practices reduce the feeling of anger (Jurak et al., 2020) and annoyance emerging from incapability of meeting the goals of an individual. Yoga helps in the better management and functioning of the brain and overcoming laziness resulting from continuous working hours (Nagarathna et al., 2021).

It makes an individual more flexible and mobile in working and performance and thus improves the efficiency of an individual. People get relaxed by stretching muscles resulting in more flexibility (Chen et al., 2020) of an individual and a lower risk of bodily injury.

3.5.5 Confidence and Relaxation:

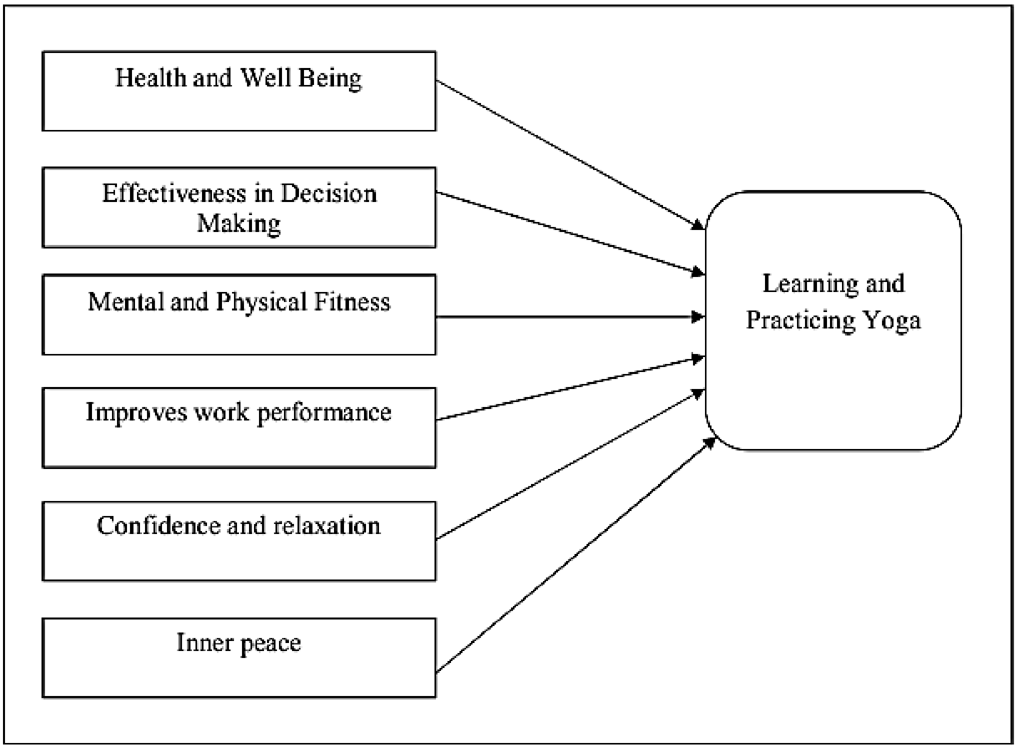
Yoga improves the confidence level (Acharya et al., 2021) through breathing exercises. The breath exercises focus on muscles decreasing the amount of tension of an individual. Yoga controls the movement of the breath with special reference to time to keep the mind focused and thus increasing the confidence of an individual (Umesh et al., 2021). Yoga is a phenomenon that helps to keep the mind quiet and relaxed and generates a feeling of calmness. The calmness helps individuals to improve their thought process, decreases the stress level (Bavel et al., 2020) and hence makes an individual a happier and more confident individual. Relaxation is a precious ability that an individual can learn from yoga.

Yoga helps in adequate movement of breath, focuses on solution of problems, encourages relaxation, controls the heart beats, and decreases blood pressure.

3.5.6 Inner Peace:

Yoga can be regarded as the exercise of maintaining a balance between mind and body. Practicing yoga makes an individual brain active as the human brain (Desikachar K, 2005) is responsible for all its functioning and motivation (Acharya et al., 2021). Yoga controls the frustration, anger, regret and desire that cause stress (Paap et al., 2016). If an individual learns to control the mind, as there are many fluctuations in human mind, they can live longer and healthier life which will give inner satisfaction and peace to an individual.

The regular practice of yoga and meditation helps in finding inner peace (Upadhyay et al., 2021), which will keep the body and mind healthy for various tasks by eliminating negative thoughts and leading to positive vibes. The factor analysis extracted six factors, which have depicted in Figure 3.1



Source: Author's own contribution

Figure 3.1: Framework for Learning and Practicing Yoga

3.6 Conclusion:

The current study identified the key factors which changed the lifestyle of those people, who were affected by the COVID-19 virus and observed the changes in their behavior by learning and practicing yoga. Sustainable societies are believed to be based on three interdependent and mutually strengthening criteria: social development, environmental protection, and economic growth.

All the above three standards are considered to be equally essential. These time- tested principles, when put into practice, these proven principles lead to collective action that leads to the sustainable development of society at large.

It is considered important that the progress of human society is closely related to the maintenance of natural processes. It is encouraging that this reasoning underlies many of today's sustainability initiatives. For the current study, factor analysis was conducted to identify the prominent factors considered by the yoga practitioner. The findings will be useful for people to overcome mental and physical stress in post COVID world. A framework of all the factors for Learning and Practicing Yoga is developed.

3.7 Limitations and Future Scope:

There are some limitations of the current research work which can be addressed by the researchers in the future. The first, study based on survey method and in a limited geography.

Second, experimental method may be adopted by the researcher for more concrete results. Further, there can be more relevant constructs that are not considered in the study; they can change the research framework and findings in future studies.

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4. Gender Diversity Trends in the Indian Banking Sector

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Abstract:

No country can develop and achieve its full potential if half of its population is engaged in non-remunerative, less productive, and non-economic activities. Despite the country's fast economic progress, gender disparities in women's economic engagement have remained deep and persistent in India. In this backdrop, it is essential to examine women's engagement in the banking sector, the backbone of any economy, and this study attempts to ascertain the extent of participation of female employees, the trend in their employment over a period of sixteen years and the forecast of female employment for the next four years in the Indian banking sector. The data for the study has been collected from secondary sources such as RBI's Basic Statistical Return, research papers and articles. The findings of the study show that the Indian banking sector is still at a slow pace in its journey towards gender equality and there is a dire need to take voluntary initiatives to bring women into employment to tap the full potential of talented individuals irrespective of their gender.

Keywords: *Banking sector, Career opportunities, Employment trend, Female employees, Gender diversity.*

4.1 Introduction:

The economic and social developments of a nation depend upon the extent of women's participation in economic activities (Shaji & Joseph, 2020). In the last century, the world has witnessed great strides in terms of women's economic participation. Across the Organization for Economic Cooperation and Development (OECD) countries, the Female Labour Force Participation Rate (FLFPR) increased from 40% to 51% on average between 1960 and 2016. In fact, OWID estimates suggest that women labour market participation has progressed significantly over the last century in 32 out of 41 countries.

On the other hand, the Indian subcontinent, home to 17 per cent of the world's female population, is in the company of nine countries where FLFPR has plummeted. Between 1983 and 2012, India's FLFPR fell by almost 4 percentage points. Furthermore, India's current FLFPR at 20 per cent is among the lowest in the world, with only parts of the Arab world performing worse than the country (Kapoor & Kapoor, 2021).

According to World Bank estimates, India has one of the lowest female labour force participation rates in the world. Only less than a third of women – defined in the report as 15 or older – are working or actively looking for a job (Kumar, 2021). In the Global Gender Gap Index of 2021, India ranks 140th out of 156 countries; revealing its failure to take steps to attain gender equality. In the region wise ranking of the Gender Gap Index, India ranks 6th out of 8 South Asian countries (Global Gender Gap Report, 2021). In the World Economic Forum Global Gender Gap Index for 2021, India fell 28 places, to 140th out of 156 countries. Women's labour force participation decreased to 22.3%, from 24.8% the year before (Bang, 2021).

According to an IMF report on gender parity in the financial sector, women are under-represented at all levels of the global financial system, from depositors and borrowers to employees, bank board members, and regulators. The poor representation of Indian women continues to be reflected in the Indian banking sector also (Bhaskaran, 2021). Once the Indian banking sector had leaders like Arundhati Bhattacharya of State Bank of India, Chanda Kochhar of ICICI Bank, Shikha Sharma of Axis Bank, and Usha Ananth Subramanian of Allahabad Bank who had appeared on every list of top women in banking. However, they have either resigned from their positions or been involved in scams or controversies that led them to quit forcefully (Dash, 2019).

Various gender inclusive policies implemented in the recent past, including six months of maternity leave and two years of child care leave, often affect the entry as well as the upward mobility of women in banking jobs. In spite of all the discussions on gender equality, the employment opportunities for women in the Indian banking sector remain restricted and are way below the global standards of diversity, gender inclusion and parity (Bhaskaran, 2021).

4.2 Status of Female Employees in the Indian Banking Sector:

It is still considered in the society that a woman's place is at home (Nandy, Bhaskar, & Ghosh, 2014) and in the process of balancing work and home life, they encounter a plethora of problems (Kumar & Shree, 2020). Traditional roles of women, lack of family-friendly workplace policies, weak sponsorship/mentorship, old boys' network, queen bee syndrome, long working hours (Ganiyu, Oluwafemi, Ademola, & Olatunji, 2018) gender discrimination, (Liff & Ward 2001; Imam, Shah, & Raza, 2013; Mollah & Uddin, 2018) child care, pregnancy, male dominance, (Imadoğlu, Kurşuncu, & Çavuş, 2020) sexual harassment and unsupportive male workers (Mollah & Uddin, 2018), are considered to be the major factors that hinder the participation of women in the workforce. Glass ceiling in banking is a universal phenomenon and many banks look for equal representation at the entry level but women become laggards for reasons other than talent while moving up. The challenge is to nurture the pipeline. Indian banking sector is believed to be providing a conducive atmosphere for women to work with. Desk-based and stable nature of banking careers, non-discriminatory wages and the high social status offered by a banking career are considered to be favorable factors for women employees.

Moreover, banking is a very attractive sector for women with respect to the greater opportunities for advancement and high compensation packages. In spite of all these factors, women's representation in the Indian banking sector is still low and there exists glass ceiling for women in the entry level and in the advancement stage (Thapar & Sharma, 2017; Shaji & oseph, 2020; Kaur & Singh, 2020).

Therefore, to understand the emphasis given by the Indian banking sector to the inclusion of women in their workforce, it is imperative to examine the participation of women in the various cadres of the banking sector. This study analyses the trends in the participation of female officers, female clerks and female subordinates in public sector banks, private sector banks, foreign banks, regional rural banks and small finance banks for an extensive period from 2005-06 to 2020-21. The findings of the study will help to identify the pattern of female employment, the present position of women and the forecast of female employment in the Indian banking sector.

4.2.1 Objectives of the Study:

- To study the trend in the share of female employees in the total employment of scheduled commercial banks.
- To analyze the growth rate of female employees in scheduled commercial banks.
- To forecast the trend in the employment of female employees in scheduled commercial banks.

4.3 Methodology:

The study is primarily based on secondary data. The data was obtained from Basic Statistical Returns of Scheduled Commercial Banks in India, RBI. The data reveals the total number of employees, officers, clerks and subordinates, as well as the total number of female employees, female officers, female clerks and female subordinates employed in public sector banks, private sector banks, foreign banks, regional rural banks, small finance banks and all scheduled commercial banks from 2005-06 to 2020-2021. The data was analyzed using percentage and growth rate to determine the proportion of female employees in the total workforce and also the trend in the employment pattern of female employees. The forecast of female employment in the Indian banking sector was made in accordance with the prior trend for the next four years, i.e., from 2021-22 to 2024-25.

4.3.1 Data Analysis and Discussion Distribution of Employees of Public Sector Banks According to Category:

Table 4.1 depicts the number of officers, clerks, subordinates and total employees in public sector banks from 2005-06 to 2020-21. It also shows the number of female officers, female clerks, subordinates and total female employees. The proportion of female officers to the total number of officer's starts at a meager 7 per cent in 2005-06. Though there was a consistent growth in the percentage of female officers till 2017-18, it was not significant. The highest percentage of female employees has been recorded in 2017-18 at 30.1 per cent and then the trend has declined, reaching 25.9 per cent in 2020-21. The number of female clerks was quite high in 2005-06, at 22 per cent.

However, the proportion of female clerks is only 33.2 per cent in 2020–21, which is not a remarkable growth for a sixteen-year period. The percentage of female subordinates was 10.2 per cent in 2005-06 and it had a scanty growth of around 5 per cent, reaching 15.6 per cent in 2020-21. Overall, the total number of female employees in public sector banks has increased by only 12.5 per cent over the last sixteen years, rising from 14.5 per cent in 2005-06 to 27 per cent in 2020-21. This shows that the public sector banks were ineffective in promoting the participation of women in the banking sector.

4.3.2 Distribution of Employees of Private Sector Banks According to Category:

Table 4.2 shows the number of female officers, female clerks, female subordinates, and total female employees in private sector banks from 2005-06 to 2020-21, as well as their percentages to the total number of officers, clerks, subordinates, and total employees. The percentage of female officers was 17.3 per cent in 2005- 06 and with inconsistent growth for a period of eight years, it reached its highest per cent of 24.8 in 2013-14. However, the proportion has been declining, coming down to 21.6 per cent in 2020-21. Similar to public sector banks, private sector banks had a good record of 31 per cent of female clerks in 2005-06. Subsequently, the number rose to 41 per cent in 2018-19, and now it rests at 37.8 per cent in 2020-21. The percentage of female subordinates was only 7.3 per cent in 2005-06, but with steady growth it reached 22.2 per cent in 2018-19. However, it further fell to 19.6 per cent in 2020-21. The percentage of the total number of female employees was 21.3 per cent in 2005-06, and it soared to 25.8 per cent in 2013-14, but it came down to 22.2 per cent in 2020-21. Therefore, the increase in the proportion of total female employees in private sector banks for the last sixteen years was just 0.9 per cent, showing the failure of the private sector banks to improve gender diversity in employment.

4.3.3 Distribution of Employees of Foreign Banks According to Category:

Table 4.3 exhibits the employee details of the foreign banks. It includes the total number of employees, officers, clerks, subordinates and the total number of female employees, female officers, female clerks, subordinates and their percentages. In 2005-06, the proportion of female officers in foreign banks was 29.7 per cent, which is better than public and private sector banks. The percentage reached its peak in 2011-12 with 32.2 per cent. However, it fell down to 29.7 per cent in 2020-21. Therefore, there has been no increase in the proportion of female officers in foreign banks for the past sixteen years. The percentage of female clerks in foreign banks indicated a good sign in 2005-06, at 44.6 per cent. Further, it continued to reach 52.1 per cent 2011-12, a spectacular improvement in women's participation in foreign banks. Subsequently, the percentage declined to 50.1 in 2020- 21, still showcasing the foreign banks' gender equality in employment. The percentage of female subordinates in foreign banks stood at 16.5 per cent in 2005-06, with inconsistent trends in percentage, it reached 26.8 per cent in 2020-21. However, the percentage was only 4 to 6 in some of the years during the past sixteen years. The proportion of the total number of female employees in foreign banks was quite good in 2005-06 at 30.6 per cent, but the increase in percentage was insignificant for the last sixteen years, at only 1 per cent, thus reaching 31.6 per cent in 2020-21.

Though the proportion of female employees in clerks and subordinates is increasing, the proportion of female officers and total female employees is not particularly outstanding. In spite of that, foreign banks' gender diversity is still significantly better than that of public and private sector banks. Public and private sector banks will have to put in great efforts to get to where foreign banks were sixteen years ago.

4.3.4 Distribution of Employees of Regional Rural Banks According to Category:

Table 3.4 indicates the total number of employees, officers, clerks and subordinates; total number of female employees, female officers, female clerks and female subordinates and their proportion in the total employment in the regional rural banks from 2005-06 to 2020-21. The percentage of female officers in regional rural banks was very poor at 2.3 per cent in 2005-06. However, it depicts a sizeable growth, reaching 19.9 per cent in 2020-21, indicating an overall increase of 17.6 per cent.

The percentage of female clerks was only 7.9 per cent in 2005-06, with continuous growth it raised to 23.4 per cent in 2020-21. Likewise, the percentage of female subordinates was as low as 1.3 per cent in 2005-06, but over the period of sixteen years it increased to 13.1 per cent. Overall, the proportion of the total number of female employees has seen an increase of 16.7 per cent in the last sixteen years, from 4 per cent to 20.7 per cent.

Despite the fact that regional rural banks should focus more on expanding the engagement of female employees, they exhibit a slow yet steady growth in the participation of female employees in their workforce.

4.3.5 Distribution of Employees of Small Finance Banks According to Category:

Table 4.5 reveals the total number of employees, officers, clerks, subordinates, female officers, female clerks, female subordinates, total number of female employees and their percentages for a period of four years, since the inception of small finance banks. The percentage of female employees started at 13.2 per cent in 2017-18 and with a meagre increase to 13.9 per cent in 2018-19, it declined to 13.1 per cent in 2020-21. The percentage of female clerks was 4.3 per cent in 2017-18. It showed a significant increase of 10.6 per cent, rising to 14.9 per cent in 2019-20. However, it plummeted to 6.8 per cent in 2020-21. On the other hand, the trend in the proportion of female subordinates shows a constant decline, falling from 6.3 per cent in 2017-18 to 2.8 per cent in 2020-21. Overall, the percentage of the total number of female employees has decreased by 0.2 per cent during the last four years, demonstrating the lack of efforts by the small finance banks to increase the participation of female employees.

Though the small finance banks are still in a nascent stage, 11 per cent of female employees in their workforce are alarming and it is pertinent to point out that their record is worse than the public, private and foreign banks at the same stage, and they have to go a long way to attain gender parity.

4.3.6 Distribution of Employees of All Scheduled Commercial Banks According to Category:

Table 4.6 discloses the employee details of all scheduled commercial banks from 2005-06 to 2020-21. In scheduled commercial banks in 2005-06, the proportion of female officers was only 9.3 per cent. During a period of 12 years, it escalated to 24.7 per cent in 2017-18, but witnessed a decrease of 2.1 per cent and reached 22.6 per cent in 2020-21. The percentage of female clerks was 22 per cent in 2005–06, and with consistent growth, it reached 31.7 per cent in 2020–21, which was, however, not a significant increase over a sixteen-year period. With 9.4 per cent of female subordinates in 2005–06, scheduled commercial banks' share of female subordinates has dropped to 14.6 per cent in 2020–21, a 5.2 per cent decrease. The total number of employees in all scheduled commercial banks has risen from 14.7 per cent in 2005-06 to only 23.9 per cent in 2020-21, indicating a scanty growth of 9.2 per cent. This indicates the scheduled commercial banks' dismal record in achieving gender equality in their workforce. In spite of being an important part of the economy, the Indian banking sector has not made adequate efforts to bring women into their workforce and insufficient growth of less than 10 per cent over a period of sixteen years is unfavourable to the path towards gender equality in the banking sector.

4.3.7 Trend in the Growth of Female Employees (category wise) in Public Sector Banks:

Table 4.7 shows the growth rate of female employees in public sector banks from 2005-06 to 2020-21. The growth rate of female officers in public sector banks ranges from 2 per cent to 42 per cent with also a negative rate of 14 per cent in 2018-19. The overall growth rate of female officers is momentous at 491 per cent. However, the average growth rate of female officers is only 13 per cent. The female clerks’ growth rate was inconsistent, and the highest was recorded in 2018-19 at 13 per cent. During the sixteen-year period, the average growth rate for female clerks was only 2 precent. The overall growth rate and the average growth rate of female subordinates were 5 per cent per cent and 1 per cent, respectively, indicating a very poor growth rate trend. Though there is a significant increase in the overall growth rate of the total number of female employees at 98 per cent the average growth rate stands at only 5 per cent, revealing the need for public sector banks to focus more on gender parity in employment.

4.3.8 Trend in the Growth of Female Employees (category wise) in Private Sector Banks:

Table 4.8 indicates the growth rate of female employees in private sector banks from 2005-06 to 2020-21. The growth rate of female officers was the highest in 2009-10 at 34 percent and the lowest was recorded in 2017-18 at negative 12 per cent. From 2006-07 to 2020-21, the growth rate has decreased by 3 per cent. While the overall growth rate is quite good at 65 per cent the average growth rate is merely 4 per cent. The growth rate of female clerks fluctuated throughout the sixteen years. The highest and lowest growth rates were 185 percent and -84 percent respectively. And the overall growth rate marks a significant record of 84 per cent. Female subordinate growth rate reached a high of 493 per cent in 2020–21 and a low of -81 per cent in 2014–15.

Both the overall growth rate and the average growth rate show a remarkable trend, with 138 per cent and 56 per cent respectively. However, it does not reflect on the growth rate of the total number of female employees. While the overall growth rate was 69 per cent, the average growth rate was barely 4 per cent showing an inefficient record by the private sector banks.

4.3.9 Trend in the Growth of Female Employees (category wise) in Foreign Banks:

Table 4.9 exhibits the growth rate of female employees in foreign banks from 2005-06 to 2020-21. With an inconsistent trend, the growth rate of female officers in foreign banks fluctuates between negative 12 per cent and 34 per cent. Though the overall growth rate seems sizeable at 65 per cent, the average growth rate is inadequate at 4 per cent. The growth rate of female clerks in foreign banks reveals extreme values of negative 84 per cent in 2007-08 and 185 per cent in 2017-18.

Likewise, the rate of growth of female subordinates also exhibits an inconsistent trend, with the lowest rate of negative 81 per cent in 2014-15 and the highest per cent of 493 in 2020-21. However, the growth rate of female employees does not fluctuate to a greater extent, with the highest and lowest per cent being recorded in 2007-08 and 2009-10, at negative 15 per cent and 36 per cent respectively.

Despite the fact that the overall growth rate and average growth rate of female clerks and female subordinates in foreign banks disclose good records, the average growth rate of total female employees in foreign banks during the sixteen years was not substantial, standing at only 4 per cent. This highlights the need to develop strategies to bring more women into the workforce by foreign banks.

4.3.10 Trend in the Growth of Female Employees (category wise) in Regional Rural Banks:

Table 4.3.10 discloses the growth rate of female employees in regional rural banks. The regional rural banks record an increasing trend in the growth rate of female officers in all years except 2006-07 at a negative 6 per cent. The growth rate was at its peak in 2012-13 at 60 per cent. The female clerks' growth rate oscillated throughout all the years, with the highest and lowest being recorded in 2010-11 at 39 per cent and 2007-08 at negative 3 per cent respectively.

The growth rate of female subordinates was exceptional in 2010-11 at 372 per cent. However, there was a declining trend, and it fell to a negative 10 per cent in 2020-21. The rate of growth in the total number of female employees also reached a peak in 2010–2011, at 45 per cent. It is pertinent to point out that the overall growth rate of female officers, female clerks, female subordinates, and total number of female employees has shown an enormous record of 1,447 per cent, 331 per cent, 311 per cent and 604 per cent respectively. However, their average growth rate hasn't shown a similar trend, with only 21 percent, 11 per cent, 27 per cent and 15 per cent respectively.

4.3.11 Trend in the Growth of Female Employees (category wise) in Small Finance Banks:

Table 4.3.11 depicts the growth rates of female employees in small finance banks. It reveals the fluctuations in the employment trend of female employees during the last four years. The growth rate of female officers was 62 per cent and 73 per cent in 2018-19 and 2019-20 respectively, however, it fell to a negative 2 per cent in 2020-21, exhibiting an average growth rate of 33 per cent. On the other hand, the overall growth rate is substantial at 174 per cent. The growth rate of female clerks is positive but on a decreasing trend; it has come down from 698 percent in 2018-19 to 43 per cent in 2020-21. The overall growth rate and average growth rate of female clerks are outstanding at 1337 per cent and 192 per cent respectively.

While the average growth rate is insignificant for female subordinates, the overall growth rate is at a negative 40 per cent, revealing a poor trend in growth rate. The overall growth rate of the total number of female employees is 161 per cent and the average growth rate is 31 percent, illustrating a positive trend in the employment of female employees. Female employment in small finance banks is inconsistent in general, and they should explore the initiatives that may be taken to increase female participation.

4.3.12 Trend in the Growth of Female Employees (category wise) in All Scheduled Commercial Banks:

Table 4.4.12 shows the inconsistent rate of growth of female officers in all scheduled commercial banks; however, it has been positive in all the years. The growth rate ranges from 35 per cent to 1 per cent. While the average growth rate is 15 per cent the overall growth rate is tremendous at 696 per cent. The growth rate of female clerks has registered the highest and lowest, at 17 per cent in 2010-11 and at a negative 22 per cent in 2014-15, respectively. Unlike the rate of growth of female officers, the overall growth rate of female clerks stands at only30 per cent and average growth rate is a meagre 2 per cent. The growth rate of female subordinates has also fluctuated, with a negative growth rate for most of the years. The overall growth rate and average growth rate register an insignificant number of 19 per cent and 2 percent respectively. The growth rate of total number of female employees in all scheduled commercial banks portrays positive percentages except in the year 2007-08, at a negative 7 percent.

Though the overall growth rate registers 182 percent, the average growth rate is only 7 percent which is not a remarkable growth for a period of sixteen years. This demonstrates the lack of initiatives by the scheduled commercial banks to integrate female employees into their workforce.

4.3.13 Forecast of Total Number of Female Employees in Public Sector Banks:

Graph 1 shows the total number of female employees employed in public sector banks from 2005-06 to 2020-21 along with the forecast for another four years, i.e., from 2021-22 to 2024-25. The total number of female employees in the workforce of the public sector banks increased from 2005-06 to 2020-21, however, the trend was inconsistent over the period. The forecast depicts an upward trend; it is estimated that the total number of female employees in public sector banks for the years 2021-22, 2022-23, 2023-24 and 2024-25 will be 2,08,155, 2,39,423, 2,48,369, 2,57,315 and 2,66,261 respectively. Due to the overall increase in the total number of female employees in the workforce of public sector banks for the past sixteen years, the forecast also exhibits a favourable position for female employment in public sector banks, depicting a growth of 28 per cent more than 2020-21 in the next four years, thus reaching 2, 66,261 female employees in public sector banks in 2024–25.

4.3.14 Forecast of Total Number of Female Employees in Private Sector Banks:

Graph 2 indicates the forecast of female employment in the private sector banks from 2021-22 to 2024-25 and also the actual number of total female employees employed in the private sector banks from 2005-06 to 2020-21. During the period 2005-06 to 2020-21, female employment in private sector banks shows an upward trend with fluctuations. As per the forecast, the total number of female employees in the private sector banks shows an increasing trend for the next four years. Also, it is estimated to have a steady growth in female employment with 1, 36,009 female employees in 2021-22, 1, 43,845 female employees in 2022-23, 1, 51,680 female employees in 2023–24 and 1, and 59,516 female employees in 2024-25. According to the previous trend in female employment in private sector banks, the total number of female employees in private sector banks is expected to be 25 per cent more than the total number of female employees in 2020-21, over the next four years, thereby reaching 1, 59,516 female employees in 2024-25.

4.3.15 Forecast of Total Number of Female Employees in Foreign Banks:

Graph 3 exhibits the total number of female employees in foreign banks from 2005-06 to 2020-21 along with the forecast of the total number of female employees from 2021-22 to 2024-25. The pattern of female employment in foreign sector banks in the previous years, i.e., from 2005-06 to 2020-21, depicts a rising trend with fluctuations. In accordance with the prior trend, the forecast indicates an inconsistent yet increasing trend. The forecast for the number of female employees in 2021-22 shows a decline to 8,561 from 8,691 in the previous year (2020-21). However, the trend is increasing in the next three years, thus reaching 8,776 female employees in 2022-23, 8,990 female employees in 2023-24 and 9,024 female employees in 2024-25. As a result, female employment in foreign sector banks is expected to grow 6 per cent more than the total number of female employees in 2020-21, reaching 9,204 female employees in 2024-25. Female employment in foreign banks is expected to increase only by 6 per cent, which is much lower than female employment estimates in public and private sector banks.

4.3.16 Forecast of Total Number of Female Employees in Regional Rural Banks:

Graph 4 depicts the actual trend in female employment in regional rural banks for the past sixteen years, i.e., from 2005-06 to 2020-21. Based on this trend, the graph also shows a forecast for another four years, i.e., from 2021-22 to 2024-25.

Female employment shows a steady growth from 2005-06 to 2020-21, during the period of sixteen years, it depicts a decline only in the year 2007-08. Similar to the past trend, the forecast of the total number of female employees in regional rural banks exhibits an increasing trend from 2021-22 to 2024-25, thereby reaching 21,081 female employees in 2021-22, 22,598 female employees in 2022-23, 24,115 female employees in 2023-24 and 25,632 female employees in 2024-25. Hence, with a whopping increasing trend, in the next four years the female employment in regional rural banks is estimated to increase by 41 per cent more than that of the total number of female employees in 2020-21, thus reaching 25,632 female employees in 2024-25. The forecasted increase of 41 per cent in total number of female employees in regional rural banks is higher than the estimated trend of female employment in public sector, private sector and foreign banks.

4.3.17 Forecast of Total Number of Female Employees in All Scheduled Commercial Banks:

Graph 5 shows the total number of female employees employed in all scheduled commercial banks from 2005-06 to 2020-21, comprising of public sector banks, private sector banks, foreign banks, regional rural banks and small finance banks, as well as the forecast of female employment for the next four years, i.e., from 2021-22 to 2024-25. The female employment pattern in the past sixteen years shows an inconsistent but increasing trend. The forecast of the total number of female employees in all scheduled commercial banks also shows a rising trend, thus reaching 3, 90,721, 4, 07,656, 4, 24,590 and 4, 41,524 in 2021-22, 2022-23, 2023-24 and 2024-25 respectively. The total number of female employees in all scheduled commercial banks is forecasted to attain 4,41,524 in 2024-25, i.e., an increase of 18 per cent more than the total number of female employees at present (2021-22). Therefore, the forecast of female employment trend in public sector banks, private sector banks, foreign banks, regional rural banks and all scheduled commercial banks including small finance banks in accordance with the prior pattern shows a favorable position for the next four years, i.e., from 2021-22 to 2024-25.

4.4 Conclusion:

Though the Indian banking sector has more than 250 years of existence, its contribution towards the empowerment of women is not impressive. The proportion of female employees in all scheduled commercial banks as on 2020-21 is 24 per cent, while the Female Labour Force Participation Rate of the country as on 2020-21 is 20 per cent; hence, it is evident that female employment in banking sector is only slightly above the nation’s average. Despite the fact that the study's findings show an increasing trend in women's employment, the proportion of total female employees in the Indian banking sector remains less than a quarter, and a global comparison demonstrates that Indian banks still have a long way to go in terms of gender parity. The Indian banking sector appears to be unaware of the advantages that might be achieved from gender diversity. To guarantee gender equality in the Indian banking sector, women should be given assistance to reach not just the clerical, subordinate, and managerial levels but also the top echelons of the banking sector.

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Table 4.1: ***Distribution of Employees of Public Sector Banks According to Category***

Year	Total Employees				Of which: Females							
	Officers	Clerks	SO	Total	Officers	%	Clerks	%	SO	%	Total	%
2005-06	237,654	326,182	160,453	724,289	16,896	7.1	71,639	22.0	16,336	10.2	104,871	14.5
2006-07	244,810	310,245	160,640	715,695	17,898	7.3	68,205	22.0	16,187	10.1	102,290	14.3
2007-08	230,181	286,977	147,610	664,768	18,388	8.0	63,016	22.0	14,347	9.7	95,751	14.4
2008-09	240,801	293,095	151,724	685,620	22,368	9.3	69,216	23.6	16,442	10.8	108,026	15.8
2009-10	278,915	296,069	152,791	727,775	29,457	10.6	74,892	25.3	15,562	10.2	119,911	16.5
2010-11	310,961	313,537	151,190	775,688	38,372	12.3	81,764	26.1	16,167	10.7	136,303	17.6
2011-12	326,027	387,831	153,541	867,399	50,439	15.5	85,815	22.1	18,985	12.4	155,239	17.9
2012-13	334,061	398,801	153,628	886,490	56,304	16.9	93,142	23.4	20,182	13.1	169,628	19.1
2013-14	353,012	333,583	156,218	842,813	63,253	17.9	100,412	30.1	20,283	13.0	183,948	21.8
2014-15	383,474	315,292	160,926	859,692	89,678	23.4	82,671	26.2	21,705	13.5	194,054	22.6
2015-16	376,200	303,755	147,328	827,283	93,611	24.9	82,354	27.1	20,794	14.1	196,759	23.8
2016-17	382,403	302,836	141,601	826,840	101,504	26.5	82,492	27.2	20,645	14.6	204,641	24.7
2017-18	375,812	298,245	133,391	807,448	113,173	30.1	82,538	27.7	24,696	18.5	220,407	27.3
2018-19	388,939	295,277	124,184	808,400	96,803	24.9	92,893	31.5	17,047	13.7	206,743	25.6
2019-20	386,200	277,608	106,601	770,409	98,264	25.4	90,389	32.6	15,530	14.6	204,183	26.5
2020-21	386,228	274,249	110,323	770,800	99,870	25.9	91,125	33.2	17,160	15.6	208,155	27.0

Note: SO- Subordinates

Source: Basic Statistical Return, RBI (2005-06 to 2020-21)

Table 4.2: Distribution of Employees of Private Sector Banks According to Category

Year	Total Employees				Of which: Females							
	Officers	Clerks	SO	Total	Officers	%	Clerks	%	SO	%	Total	%
2005-06	50,338	34,651	9,661	94,650	8,716	17.3	10,725	31.0	708	7.3	20,149	21.3
2006-07	58,776	32,751	9,462	100,989	11,164	19.0	10,322	31.5	806	8.5	22,292	22.1
2007-08	59,647	24,014	8,291	91,952	12,515	21.0	7,243	30.2	674	8.1	20,432	22.2
2008-09	67,653	26,750	8,186	102,589	14,169	20.9	7,843	29.3	745	9.1	22,757	22.2
2009-10	74,058	30,085	8,062	112,205	14,383	19.4	9,012	30.0	776	9.6	24,171	21.5
2010-11	107,107	55,630	8,334	171,071	21,655	20.2	15,796	28.4	846	10.2	38,297	22.4
2011-12	124,346	59,550	18,850	202,746	26,107	21.0	17,644	29.6	3,056	16.2	46,807	23.1
2012-13	160,757	58,652	9,715	229,124	30,942	19.2	17,813	30.4	1,562	16.1	50,317	22.0
2013-14	225,805	68,031	10,020	303,856	56,101	24.8	20,585	30.3	1,561	15.6	78,247	25.8
2014-15	277,457	30,399	11,194	319,050	56,551	20.4	10,332	34.0	1,967	17.6	68,850	21.6
2015-16	328,385	25,383	9,280	363,048	60,469	18.4	9,017	35.5	1,647	17.7	71,133	19.6
2016-17	378,741	25,656	9,592	413,989	80,790	21.3	9,393	36.6	1,618	16.9	91,801	22.2
2017-18	388,216	23,610	8,459	420,285	82,351	21.2	9,243	39.1	1,654	19.6	93,248	22.2
2018-19	442,703	23,961	9,726	476,390	98,413	22.2	9,818	41.0	2,162	22.2	110,393	23.2
2019-20	518,999	25,154	10,797	554,950	116,447	22.4	9,696	38.5	2,163	20.0	128,306	23.1
2020-21	538,704	23,667	10,215	572,586	116,334	21.6	8,950	37.8	2,004	19.6	127,288	22.2

Note: SO- Subordinates

Source: Basic Statistical Return, RBI (2005-06 to 2020-21)

Table 4.3: Distribution of Employees of Foreign Banks According to Category

Year	Total Employees				Of which: Females							
	Officers	Clerks	SO	Total	Officers	%	Clerks	%	SO	%	Total	%
2005-06	14,558	1,620	618	16,796	4,317	29.7	723	44.6	102	16.5	5,142	30.6
2006-07	16,902	1,637	570	19,109	4,778	28.3	714	43.6	93	16.3	5,585	29.2
2007-08	17,441	491	295	18,227	4,578	26.2	113	23.0	35	11.9	4,726	25.9
2008-09	15,321	965	338	16,624	4,239	27.7	281	29.1	39	11.5	4,559	27.4
2009-10	19,080	1,261	466	20,807	5,691	29.8	508	40.3	20	4.3	6,219	29.9
2010-11	22,207	1,543	490	24,240	6,927	31.2	751	48.7	25	5.1	7,703	31.8
2011-12	19,761	1,438	423	21,622	6,367	32.2	749	52.1	30	7.1	7,146	33.0
2012-13	19,086	1,343	407	20,836	5,917	31.0	582	43.3	23	5.7	6,522	31.3
2013-14	22,238	1,864	625	24,727	6,811	30.6	825	44.3	126	20.2	7,762	31.4
2014-15	23,711	1,635	444	25,790	7,261	30.6	735	45.0	24	5.4	8,020	31.1
2015-16	23,161	1,311	406	24,878	7,149	30.9	633	48.3	23	5.7	7,805	31.4
2016-17	22,765	1,076	347	24,188	6,949	30.5	505	46.9	32	9.2	7,486	30.9
2017-18	19,461	4,262	262	23,985	6,149	31.6	1,439	33.8	28	10.7	7,616	31.8
2018-19	22,009	971	249	23,229	6,746	30.7	450	46.3	26	10.4	7,222	31.1
2019-20	21,741	1,468	276	23,485	6,610	30.4	710	48.4	41	14.9	7,361	31.3
2020-21	23,941	2,661	908	27,510	7,116	29.7	1,332	50.1	243	26.8	8,691	31.6

Note: SO- Subordinates

Source: Basic Statistical Return, RBI (2005-06 to 2020-21)

Table 4.4: Distribution of Employees of Regional Rural Banks According to Category

Year	Total Employees				Of which: Females							
	Officers	Clerks	SO	Total	Officers	%	Clerks	%	SO	%	Total	%
2005-06	27,543	22,368	14,478	64,389	637	2.3	1,756	7.9	193	1.3	2,586	4.0
2006-07	27,174	22,067	14,373	63,614	601	2.2	1,790	8.1	166	1.2	2,557	4.0
2007-08	27,615	21,932	14,275	63,822	610	2.2	1,730	7.9	152	1.1	2,492	3.9
2008-09	28,066	22,120	14,393	64,579	762	2.7	1,834	8.3	156	1.1	2,752	4.3
2009-10	29,006	21,945	14,289	65,241	976	3.4	1,939	8.8	167	1.2	3,082	4.7
2010-11	29,869	31,811	18,206	79,886	1,004	3.4	2,688	8.4	789	4.3	4,481	5.6
2011-12	32,804	32,602	17,976	83,382	1,462	4.5	3,618	11.1	1,042	5.8	6,122	7.3
2012-13	37,808	26,179	20,294	84,281	2,344	6.2	3,696	14.1	669	3.3	6,709	8.0
2013-14	39,814	28,364	14,381	82,559	3,180	8.0	3,973	14.0	682	4.7	7,835	9.5
2014-15	45,322	29,282	12,406	87,010	3,526	7.8	4,767	16.3	681	5.5	8,974	10.3
2015-16	43,318	31,082	11,325	85,725	4,315	10.0	5,712	18.4	1,174	10.4	11,201	13.1
2016-17	44,685	30,813	9,376	84,874	5,123	11.5	6,168	20.0	737	7.9	12,028	14.2
2017-18	47,556	32,265	9,814	89,635	6,631	13.9	6,561	20.3	971	9.9	14,163	15.8
2018-19	48,798	34,308	8,053	91,159	8,143	16.7	7,566	22.1	896	11.1	16,605	18.2
2019-20	50,929	33,321	7,241	91,491	9,219	18.1	7,639	22.9	884	12.2	17,742	19.4
2020-21	49,460	32,285	6,082	87,827	9,855	19.9	7,564	23.4	794	13.1	18,213	20.7

Note: SO- Subordinates

Source: Basic Statistical Return, RBI (2005-06 to 2020-21)

Table 4.5: Distribution of Employees of Small Finance Banks According to Category

Year	Total Employees				Of which: Females							
	Officers	Clerks	SO	Total	Officers	%	Clerks	%	SO	%	Total	%
2017-18	28,030	1,480	9,598	39,108	3,705	13.2	63	4.3	606	6.3	4,374	11.2
2018-19	43,214	5,211	7,352	55,777	6,005	13.9	503	9.7	213	2.9	6,721	12.0
2019-20	80,268	4,254	10,340	94,862	10,401	13.0	632	14.9	307	3.0	11,340	12.0
2020-21	77,236	13,390	13,172	103,798	10,143	13.1	905	6.8	365	2.8	11,413	11.0

Note: SO- Subordinates

Source: Basic Statistical Return, RBI (2005-06 to 2020-21)

Table 4.6: Distribution of Employees of All Scheduled Commercial Banks According to Category

Year	Total Employees				Of which: Females							
	Officers	Clerks	SO	Total	Officers	%	Clerks	%	SO	%	Total	%
2005-06	330,093	384,821	185,210	900,124	30,566	9.3	84,843	22.0	17,339	9.4	132,748	14.7
2006-07	347,662	366,700	185,045	899,407	34,441	9.9	81,031	22.1	17,252	9.3	132,724	14.8
2007-08	334,884	333,414	170,471	838,769	36,091	10.8	72,102	21.6	15,208	8.9	123,401	14.7

Year	Total Employees				Of which: Females							
	Officers	Clerks	SO	Total	Officers	%	Clerks	%	SO	%	Total	%
2008-09	351,841	342,930	174,641	869,412	41,538	11.8	79,174	23.1	17,382	10.0	138,094	15.9
2009-10	401,060	349,360	175,608	926,028	50,507	12.6	86,351	24.7	16,525	9.4	153,383	16.6
2010-11	470,144	402,521	178,220	1,050,885	67,958	14.5	100,999	25.1	17,827	10.0	186,784	17.8
2011-12	502,938	481,421	190,790	1,175,149	84,375	16.8	107,826	22.4	23,113	12.1	215,314	18.3
2012-13	551,712	484,975	184,044	1,220,731	95,507	17.3	115,233	23.8	22,436	12.2	233,176	19.1
2013-14	640,869	431,842	181,244	1,253,955	129,345	20.2	125,795	29.1	22,652	12.5	277,792	22.2
2014-15	729,964	376,608	184,970	1,291,542	157,016	21.5	98,505	26.2	24,377	13.2	279,898	21.7
2015-16	771,064	361,531	168,339	1,300,934	165,544	21.5	97,716	27.0	23,638	14.0	286,898	22.1
2016-17	828,594	360,381	160,916	1,349,891	194,366	23.5	98,558	27.3	23,032	14.3	315,960	23.4
2017-18	859,075	359,862	161,524	1,380,461	212,009	24.7	99,844	27.7	27,955	17.3	339,808	24.6
2018-19	945,663	359,728	149,564	1,454,955	216,110	22.9	111,230	30.9	20,344	13.6	347,684	23.9
2019-20	1,058,137	341,805	135,255	1,535,197	240,941	22.8	109,066	31.9	18,925	14.0	368,932	24.0
2020-21	1,075,569	346,252	140,700	1,562,521	243,318	22.6	109,876	31.7	20,566	14.6	373,760	23.9

Note: SO- Subordinates

Source: Basic Statistical Return, RBI (2005-06 to 2020-21)

Table 4.7: Trend in the Growth of Female Employees (category wise) in Public Sector Banks

Year	TotalEmployees				Ofwhich:Females							
	Officers	Clerks	SO	Total	Officers	GR	Clerks	GR	SO	GR	Total	GR
2005-06	237,654	326,182	160,453	724,289	16,896	-	71,639	-	16,336	-	104,871	-
2006-07	244,810	310,245	160,640	715,695	17,898	6	68,205	-5	16,187	-1	102,290	-2
2007-08	230,181	286,977	147,610	664,768	18,388	3	63,016	-8	14,347	-11	95,751	-6
2008-09	240,801	293,095	151,724	685,620	22,368	22	69,216	10	16,442	15	108,026	13
2009-10	278,915	296,069	152,791	727,775	29,457	32	74,892	8	15,562	-5	119,911	11
2010-11	310,961	313,537	151,190	775,688	38,372	30	81,764	9	16,167	4	136,303	14
2011-12	326,027	387,831	153,541	867,399	50,439	31	85,815	5	18,985	17	155,239	14
2012-13	334,061	398,801	153,628	886,490	56,304	12	93,142	9	20,182	6	169,628	9
2013-14	353,012	333,583	156,218	842,813	63,253	12	100,412	8	20,283	1	183,948	8
2014-15	383,474	315,292	160,926	859,692	89,678	42	82,671	-18	21,705	7	194,054	5
2015-16	376,200	303,755	147,328	827,283	93,611	4	82,354	0	20,794	-4	196,759	1
2016-17	382,403	302,836	141,601	826,840	101,504	8	82,492	0	20,645	-1	204,641	4
2017-18	375,812	298,245	133,391	807,448	113,173	11	82,538	0	24,696	20	220,407	8
2018-19	388,939	295,277	124,184	808,400	96,803	-14	92,893	13	17,047	-31	206,743	-6
2019-20	386,200	277,608	106,601	770,409	98,264	2	90,389	-3	15,530	-9	204,183	-1
2020-21	386,228	274,249	110,323	770,800	99,870	2	91,125	1	17,160	10	208,155	2
OverallGrowthRate						491	-	27	-	5	-	98
Average Growth Rate						13	-	2	-	1	-	5

Note: SO- Subordinates, GR- Growth Rate

Source: Basic Statistical Return, RBI (2005-06 to 2020-21)

Table 4.8: Trend in the Growth of Female Employees (category wise) in Private Sector Banks

Year	TotalEmployees				Ofwhich:Females							
	Officers	Clerks	SO	Total	Officers	GR	Clerks	GR	SO	GR	Total	GR
2005-06	50,338	34,651	9,661	94,650	8,716	-	10,725	-	708	-	20,149	-
2006-07	58,776	32,751	9,462	100,989	11,164	28	10,322	-4	806	14	22,292	11
2007-08	59,647	24,014	8,291	91,952	12,515	12	7,243	-30	674	-16	20,432	-8
2008-09	67,653	26,750	8,186	102,589	14,169	13	7,843	8	745	11	22,757	11
2009-10	74,058	30,085	8,062	112,205	14,383	2	9,012	15	776	4	24,171	6
2010-11	107,107	55,630	8,334	171,071	21,655	51	15,796	75	846	9	38,297	58
2011-12	124,346	59,550	18,850	202,746	26,107	21	17,644	12	3,056	261	46,807	22
2012-13	160,757	58,652	9,715	229,124	30,942	19	17,813	1	1,562	-49	50,317	7
2013-14	225,805	68,031	10,020	303,856	56,101	81	20,585	16	1,561	0	78,247	56
2014-15	277,457	30,399	11,194	319,050	56,551	1	10,332	-50	1,967	26	68,850	-12
2015-16	328,385	25,383	9,280	363,048	60,469	7	9,017	-13	1,647	-16	71,133	3
2016-17	378,741	25,656	9,592	413,989	80,790	34	9,393	4	1,618	-2	91,801	29
2017-18	388,216	23,610	8,459	420,285	82,351	2	9,243	-2	1,654	2	93,248	2
2018-19	442,703	23,961	9,726	476,390	98,413	20	9,818	6	2,162	31	110,393	18
2019-20	518,999	25,154	10,797	554,950	116,447	18	9,696	-1	2,163	0	128,306	16
2020-21	538,704	23,667	10,215	572,586	116,334	0	8,950	-8	2,004	-7	127,288	-1
OverallGrowthRate						1235	-	-17	-	183	-	532
Average GrowthRate						20	-	2	-	18	-	15

Note: SO- Subordinates, GR- Growth Rate

Source: Basic Statistical Return, RBI (2005-06 to 2020-21)

Table 4.9: Trend in the Growth of Female Employees (category wise) in Foreign Banks

Year	TotalEmployees				Ofwhich:Females							
	Officers	Clerks	SO	Total	Officers	GR	Clerks	GR	SO	GR	Total	GR
2005-06	14,558	1,620	618	16,796	4,317	-	723	-	102	-	5,142	-
2006-07	16,902	1,637	570	19,109	4,778	11	714	-1	93	-9	5,585	9
2007-08	17,441	491	295	18,227	4,578	-4	113	-84	35	-62	4,726	-15
2008-09	15,321	965	338	16,624	4,239	-7	281	149	39	11	4,559	-4
2009-10	19,080	1,261	466	20,807	5,691	34	508	81	20	-49	6,219	36
2010-11	22,207	1,543	490	24,240	6,927	22	751	48	25	25	7,703	24
2011-12	19,761	1,438	423	21,622	6,367	-8	749	0	30	20	7,146	-7
2012-13	19,086	1,343	407	20,836	5,917	-7	582	-22	23	-23	6,522	-9
2013-14	22,238	1,864	625	24,727	6,811	15	825	42	126	448	7,762	19
2014-15	23,711	1,635	444	25,790	7,261	7	735	-11	24	-81	8,020	3

Year	TotalEmployees				Ofwhich:Females							
	Officers	Clerks	SO	Total	Officers	GR	Clerks	GR	SO	GR	Total	GR
2015-16	23,161	1,311	406	24,878	7,149	-2	633	-14	23	-4	7,805	-3
2016-17	22,765	1,076	347	24,188	6,949	-3	505	-20	32	39	7,486	-4
2017-18	19,461	4,262	262	23,985	6,149	-12	1,439	185	28	-13	7,616	2
2018-19	22,009	971	249	23,229	6,74	10	450	-69	26	-7	7,222	-5
2019-20	21,741	1,468	276	23,485	6,610	-2	710	58	41	58	7,361	2
2020-21	23,941	2,661	908	27,510	7,116	8	1,332	88	243	493	8,691	18
OverallGrowthRate						65	-	84	-	138	-	69
Average Growth Rate						4	-	29	-	56	-	4

Note: SO- Subordinates, GR- Growth Rate

Source: Basic Statistical Return, RBI (2005-06 to 2020-21)

Table 4.10: Trend in the Growth of Female Employees (category wise) in Regional Rural Banks

Year	TotalEmployees				Ofwhich:Females							
	Officers	Clerks	SO	Total	Officers	GR	Clerks	GR	SO	GR	Total	GR
2005-06	27,543	22,368	14,478	64,389	637	-	1,756	-	193	-	2,586	-
2006-07	27,174	22,067	14,373	63,614	601	-6	1,790	2	166	-14	2,557	-1
2007-08	27,615	21,932	14,275	63,822	610	1	1,730	-3	152	-8	2,492	-3
2008-09	28,066	22,120	14,393	64,579	762	25	1,834	6	156	3	2,752	10
2009-10	29,006	21,945	14,289	65,241	976	28	1,939	6	167	7	3,082	12
2010-11	29,869	31,811	18,206	79,886	1,004	3	2,688	39	789	372	4,481	45
2011-12	32,804	32,602	17,976	83,382	1,462	46	3,618	35	1,042	32	6,122	37
2012-13	37,808	26,179	20,294	84,281	2,344	60	3,696	2	669	-36	6,709	10
2013-14	39,814	28,364	14,381	82,559	3,180	36	3,973	7	682	2	7,835	17
2014-15	45,322	29,282	12,406	87,010	3,526	11	4,767	20	681	0	8,974	15
2015-16	43,318	31,082	11,325	85,725	4,315	22	5,712	20	1,174	72	11,201	25
2016-17	44,685	30,813	9,376	84,874	5,123	19	6,168	8	737	-37	12,028	7
2017-18	47,556	32,265	9,814	89,635	6,631	29	6,561	6	971	32	14,163	18
2018-19	48,798	34,308	8,053	91,159	8,143	23	7,566	15	896	-8	16,605	17
2019-20	50,929	33,321	7,241	91,491	9,219	13	7,639	1	884	-1	17,742	7
2020-21	49,460	32,285	6,082	87,827	9,855	7	7,564	-1	794	-10	18,213	3
OverallGrowthRate						1447	-	331	-	311	-	604
Average Growth Rate						21	-	11	-	27	-	15

Note: SO- Subordinates, GR- Growth Rate

Source: Basic Statistical Return, RBI (2005-06 to 2020-21)

Table .4.11: Trend in the Growth of Female Employees (category wise) in Small Finance Banks

Year	TotalEmployees				Ofwhich:Females							
	Officers	**Clerks**	**SO**	**Total**	**Officers**	**GR**	**Clerks**	**GR**	**SO**	**GR**	**Total**	**GR**
2017-18	28,030	1,480	9,598	39,108	3,705	-	63	-	606	-	4,374	-
2018-19	43,214	5,211	7,352	55,777	6,005	62	503	698	213	-65	6,721	54
2019-20	80,268	4,254	10,340	94,862	10,401	73	632	26	307	44	11,340	69
2020-21	77,236	13,390	13,172	103,798	10,143	-2	905	43	365	19	11,413	1
OverallGrowthRate						174	-	1,337	-	-40	-	161
Average GrowthRate						33	-	192	-	0	-	31

Note: SO- Subordinates, GR- Growth Rate

Source: Basic Statistical Return, RBI (2005-06 to 2020-21)

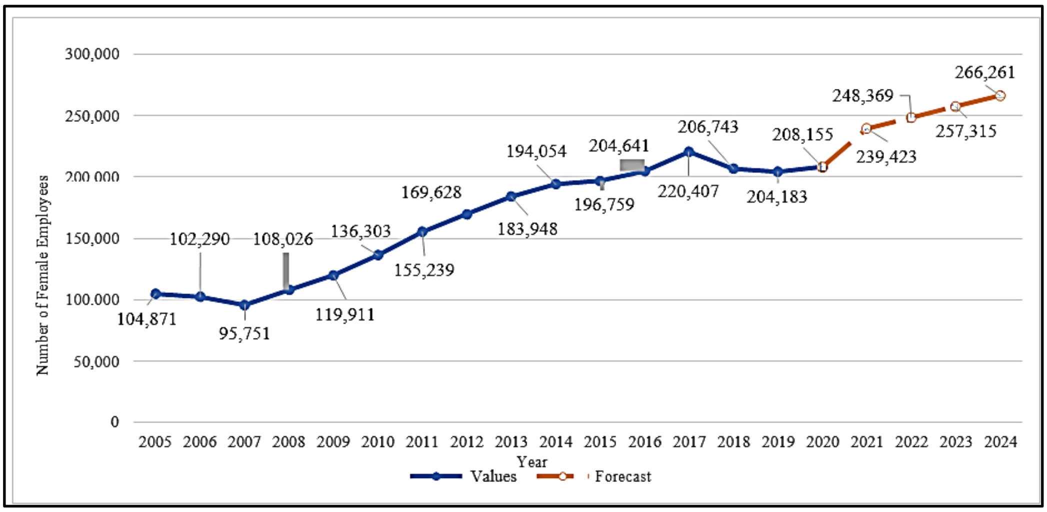
Table 4.12: Trend in the Growth of Female Employees (category wise) in All Scheduled Commercial Banks

Year	TotalEmployees				Ofwhich:Females							
	Officers	**Clerks**	**SO**	**Total**	**Officers**	**GR**	**Clerks**	**GR**	**SO**	**GR**	**Total**	**GR**
2005-06	330,093	384,821	185,210	900,124	30,566	-	84,843	-	17,339	-	132,748	-
2006-07	347,662	366,700	185,045	899,407	34,441	13	81,031	-4	17,252	-1	132,724	0
2007-08	334,884	333,414	170,471	838,769	36,091	5	72,102	-11	15,208	-12	123,401	-7
2008-09	351,841	342,930	174,641	869,412	41,538	15	79,174	10	17,382	14	138,094	12
2009-10	401,060	349,360	175,608	926,028	50,507	22	86,351	9	16,525	-5	153,383	11
2010-11	470,144	402,521	178,220	1,050,885	67,958	35	100,999	17	17,827	8	186,784	22
2011-12	502,938	481,421	190,790	1,175,149	84,375	24	107,826	7	23,113	30	215,314	15
2012-13	551,712	484,975	184,044	1,220,731	95,507	13	115,233	7	22,436	-3	233,176	8
2013-14	640,869	431,842	181,244	1,253,955	129,345	35	125,795	9	22,652	1	277,792	19
2014-15	729,964	376,608	184,970	1,291,542	157,016	21	98,505	-22	24,377	8	279,898	1
2015-16	771,064	361,531	168,339	1,300,934	165,544	5	97,716	-1	23,638	-3	286,898	3
2016-17	828,594	360,381	160,916	1,349,891	194,366	17	98,558	1	23,032	-3	315,960	10
2017-18	859,075	359,862	161,524	1,380,461	212,009	9	99,844	1	27,955	21	339,808	8
2018-19	945,663	359,728	149,564	1,454,955	216,110	2	111,230	11	20,344	-27	347,684	2
2019-20	1,058,137	341,805	135,255	1,535,197	240,941	11	109,066	-2	18,925	-7	368,932	6
2020-21	1,075,569	346,252	140,700	1,562,521	243,318	1	109,876	1	20,566	9	373,760	1
OverallGrowthRate						696	-	30	-	19	-	182
Average GrowthRate						15	-	2	-	2	-	7

Note: SO- Subordinates, GR- Growth Rate

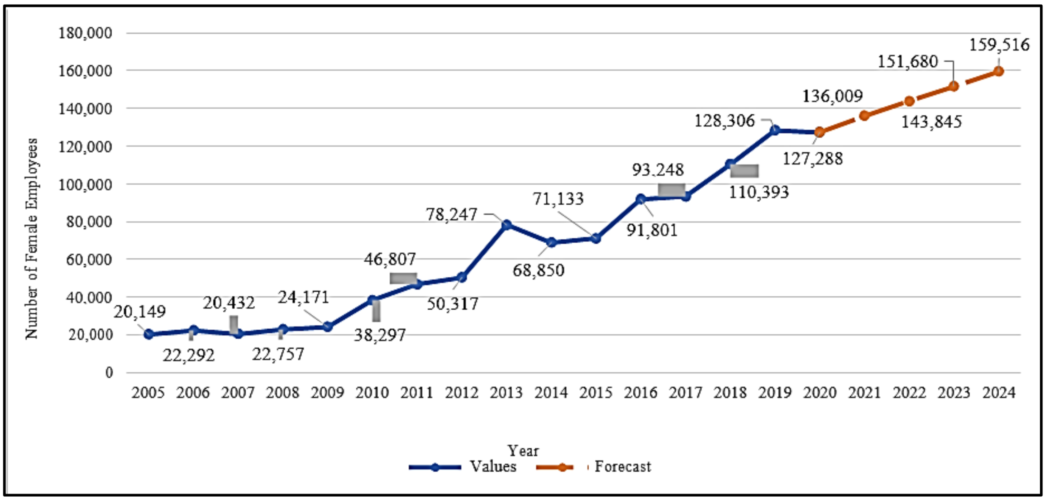
Source: Basic Statistical Return, RBI (2005-06 to 2020-21)

Graph 3.1: Forecast of Total Number of female employees in public sector banks



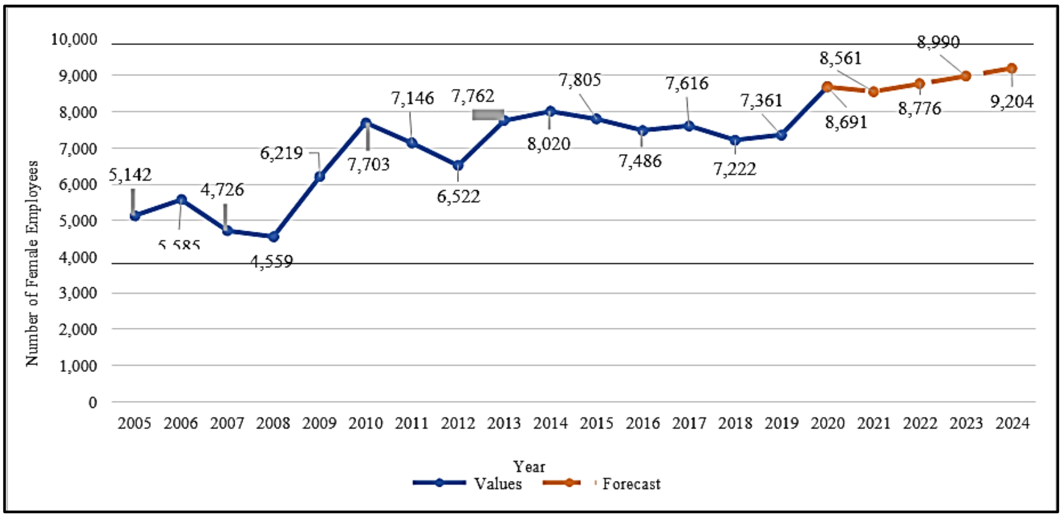
Source: Basic Statistical Return, RBI (2005-06 to 2020-21) and forecast computation by authors

Graph 3.2: ***Forecast of Total Number of Female Employees in Private Sector Banks***



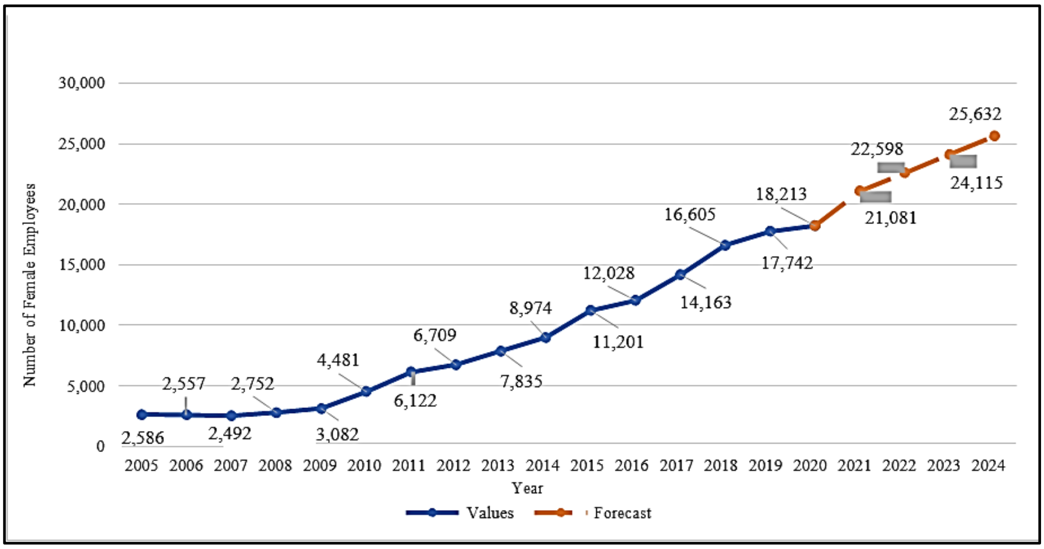
Source: Basic Statistical Return, RBI (2005-06 to 2020-21) and forecast computation by authors

Graph 3.3: ***Forecast of Total Number of Female Employees in Foreign Banks***



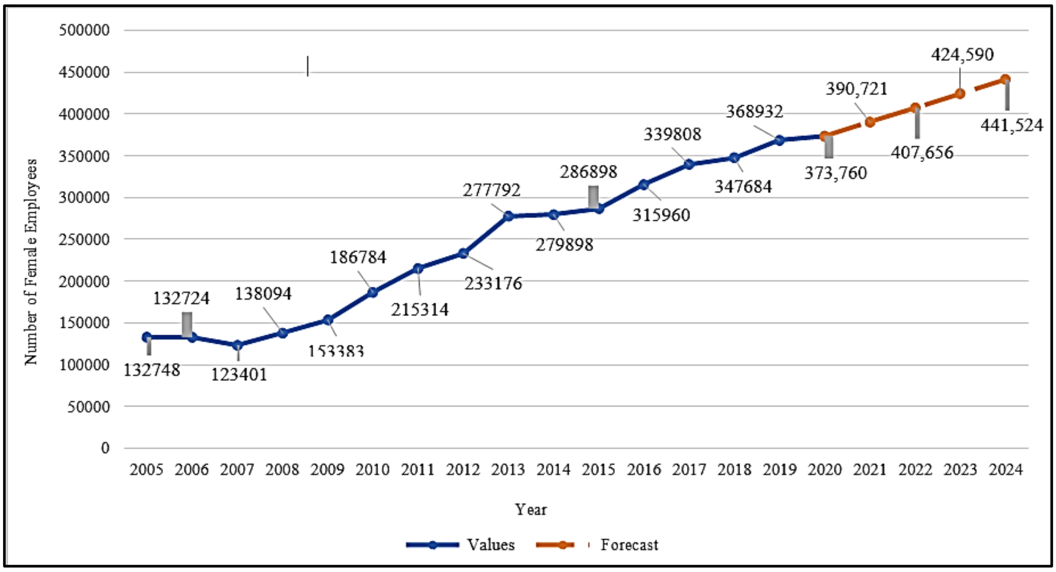
Source: Basic Statistical Return, RBI (2005-06 to 2020-21) and forecast computation by authors

Graph 3.4: ***Forecast of Total Number of Female Employees in Regional Rural Banks***



Source: Basic Statistical Return, RBI (2005-06 to 2020-21) and forecast computation by authors

Graph 3.5: ***Forecast of Total Number of Female Employees in All Scheduled Commercial Banks***



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5. Sustainable Development: A Case Study on Inland Waterways in India

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Abstract:

The government has declared 111 inland waterways as the National Waterways and the emphasis on its development to make it more sustainable in terms of the freight transportation system. In order to attain sustainable development in India's inland waterways, it is important to have a marine transportation system with an effective infrastructure to navigate the traffic and maintain a healthy marine ecosystem. This paper will carry out a detailed analysis of the historical and institutional development of India's Inland Waterway Transportation (IWT) and the recent developments that have taken place under the tenure of 2017-2021. The paper will also highlight the implementation of government policies to attain sustainability which is cost- efficient and ecosystem friendly.

Furthermore, a brief discussion is done to show the potential held by India's inland waterway transportation to actualize the vision of sustainability.

Keywords: *Inland waterways transportation, IWT, National Waterways, Sustainable Development, Sustainable Transportation.*

Maritime freight transport is an energy-effective and sustainable mode of transportation. The recent declaration of 111 National Waterways in India has made the government to lay emphasis on its development.

This research will particularly pay attention to the aspect of water transport in relation to the development of global sustainability with respect to the mode of transportation. In current times, it is essential to incorporate aspects of global sustainability into the business and industrial dynamics, especially pertaining to maritime transportation, including inland waterway navigation sectors (Ilchenko *et al*, 2021). But transportation through Roadways and Railways has an extreme degree of negative impact on the ecological environment (Bazaluk *et al*, 2021). It can also be considered that road freight transport causes an extreme level of air pollution and noise pollution.

The inclusion of global sustainability is directly proportional to the attractiveness of national and international stakeholders for investing in the management and development of waterway transport (Ilchenko *et al,* 2021). Major transportation in India is carried out mainly by trucks on roads and trains through railways. Being a developing Nation, it is bound to be an increase in the thorough utilization of inland waterways transportation in India which will result in a reduction in the harmful emissions caused by roadway and railways. Marine freight transportation will also reduce energy consumption as waterways are a natural resource (Bazaluk *et al*, 2021).

Waterway transportation is also a potential solution for reducing the cost that is spent on freight transportation operations leading to it being an environmentally friendly mode of transportation in India. The current research will shed light upon the potential of the inland waterways of India in making transport and business around it more sustainable and marine-friendly in nature. The research aims to assess the sustainability of using the current

5.1 National Waterways of India as a Transporting Medium

The Following Objectives Have Been Considered for The Research:

- To observe the previous developments made in India's IWT
- To analyze the present challenges of National Waterways
- To gain an insight into the implementation of Government policies
- To explore the ways of using IWT as a sustainable solution to transportation

The research questions of the case study are stated below:

What is the impact of government strategies from 2017-2021 in making inland?

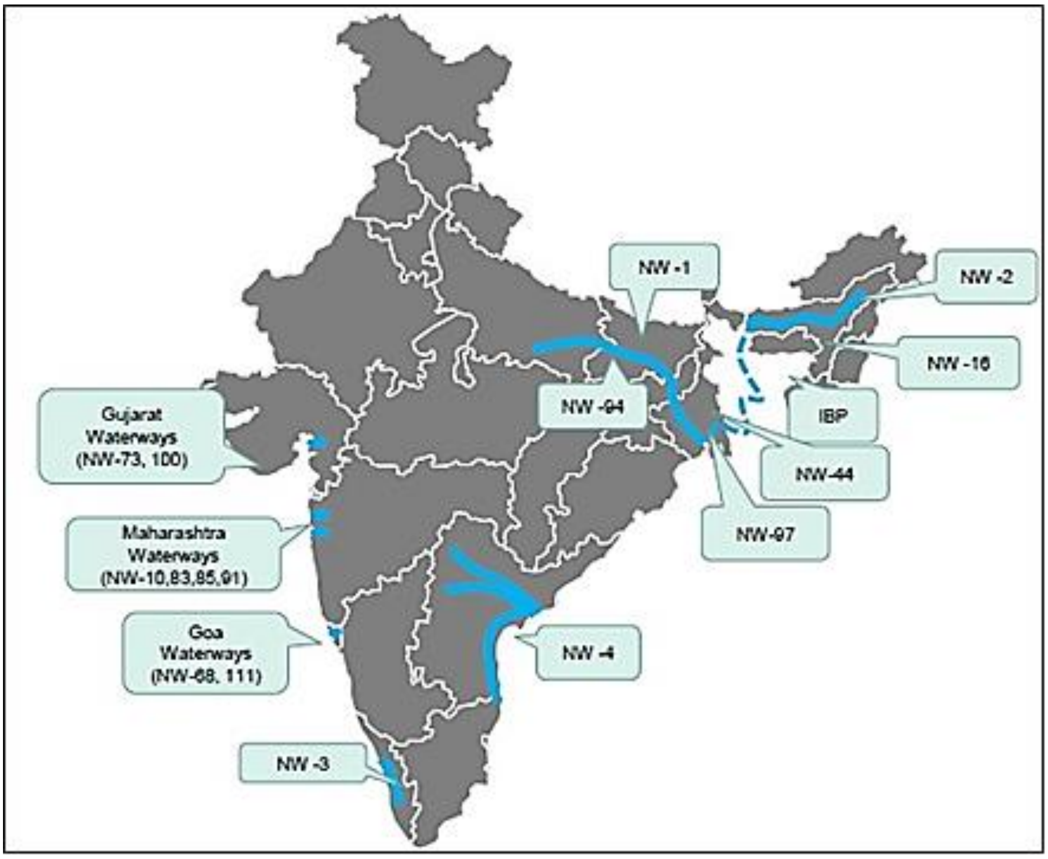
Waterways Transport a sustainable mode of transportation in India?

Traders and freight forwarders have been intentionally opting for longer routes that are socially, economically, and ecologically exploitative in nature. This study will offer in-depth knowledge into inland waterways for planning affordable transportation. Alongside, it will also act as an insightful study for policymakers for future sustainable transport development. We have considered secondary data from different verified sources which include government records, news, journals, and relevant literature. The research of this paper is organized into two major sections.

The first section deals with the challenges of national waterways, while the second section elucidates Govt policies to make them sustainable. The Govt strategies and policies have been considered from 2017 to 2021.

5.2 Literature Review:

India has a wide range of Inland Waterways with a high potential to connect transportation mediums throughout the nation that is cost-effective and sustainable in nature. The figure below shows all the national waterways present in India and the total distance they cover in the area. The figure also displays the states it goes through and the regions it is linked with.



Source: Inland Waterways Authority of India

There exist trade relations between Bangladesh, Bhutan, India, and Nepal, also known as the BBIN countries. Similar to India, Bangladesh too, has a vibrant network of inland waterways present, and it utilizes it to the fullest. Unlike India, Bangladesh has a wide and strong water freight transportation network developed on it, whereas India only uses 0.5% of its freight movement through waterways (Sharda, & Sinha, 2021).

In order to facilitate international trade, India shares five riverine routes with its neighboring country, Bangladesh under the protocol Bangladesh Inland Water Transport Authority (BITWA), 2020 (ESCAP, 2021). The inland trade routes are Kolkata:

Table 5.2: Inland transport corridors between India and Bangladesh

Sr. No.	Inland Trade Routes
1.	Chandpur -Pandu -Silghat-Kolkata
2.	Kolkata - Chandpur-Karimganj- Kolkata
3.	Silghat- Pandu -Ashuganj-Karimganj-Pandu -Silghat
4.	Rajshahi-Dhulian -Rajshahi
5.	Kolkata - Chandpur-Ashuganj

Source: ESCAP, 2021

The first two are considered the most cost-effective trade corridors for sustainability. The diplomatic connections that can be induced with improvement in the IWT of India with other neighboring countries are an area open for further research. There are a few topics related to this section of maritime trade that can be enhanced and benefitted globally with further research and development, leading towards a more sustainable global transportation.

5.3 Analysis of the Development of Inland Waterways in India:

Lothal is the oldest trading dock in the world. It was in use around 2400 BC. It highlights the trade relations and transport of goods between India and countries like Rome and Egypt (Kumar & Kumar, 2020). As time progressed, India also had trade relations with China. The inland transport routes offer the opportunity of extending into new markets, enhancement in energy sources, and also the diplomatic relations between the counties (Habib, & Hussain2022). Even the colonization era of India saw massive maritime trade, as the merchants from Portugal and Britain exported Indian goods via water. Scindia Navigation Company was the first from India to sail under the domination of Britain on sea routes (Kumar & Kumar, 2020).

India has a navigable area of waterways of about 14,500 km, with canals that stretch over 4000 km (Shallen, & Varghese, 2022). It has been used for transportation purposes. India being a country having a network of inland waterways through rivers, canals, backwater, etc, IWAI was appointed to look over it. Inland Waterways Authority of India was established by the Indian Government to develop navigable waterways. The Indian waterways have been the mode of transporting goods and cargo since colonial rule under the British. British rule had an Inland Vessels Act, 1917 which governed the vessels in the water. The Indian constitution presented amendments to it under the Inland Vessels Amendment act, 2007 (Rakshita, 2021).The new modifications paid attention to centralizing database, insurance, and pollution control measures to improve inland water navigation. It becomes essential to maintain the sustainability of the waterways. To enhance the present waterway development and utilization, the government of India officially declared 111 rivers under the National Waterways Act, 2016 (Dharmadhikary, & Verma, 2019). This act offers more ease in terms of commercial shipping businesses and navigation, along with terminal construction on these waterways on a legal front. The act made the river ways more accessible for developmental purposes.

Table 5.1: Cargo Handled by all National Waterways in India

Sr.No.	National Waterways	FY 2018-19	FY 2019-20	FY 2020-21
1	NationalWaterway1	6,793,981	91,13,297	92,06,984
2	NationalWaterway2	502,003	3,92,768	3,07,191
3	NationalWaterway3	408,790	5,46,051	7,33,977
4	NationalWaterway4	452,066	82,226	68,31,824
5	NationalWaterway10	22,381,100	2,20,14,466	1,76,85,737
6	NationalWaterway16	-	4,417	1,032
7	NationalWaterway44	-	8,98,641	2,80,353
8	NationalWaterway68	1,653,751	15,75,640	39,96,431
9	NationalWaterway73	40,941	99,614	82,311
10	NationalWaterway83	816,205	6,66,755	2,05,567
11	NationalWaterway85	1769,947	15,92,477	10,83,701
12	NationalWaterway86	-	0	1,443
13	NationalWaterway91	3374,399	1,19,443	92,34,983
14	NationalWaterway94	-	8,00,000	0
15	NationalWaterway97	3,227,460	34,59,540	38,61,439
16	NationalWaterway100	28,780,183	3,09,16,062	2,56,29,554
17	NationalWaterway111	2,104,219	13,58,202	44,64,662
	Grand Total Metric Tonnes	72,305,045	7,36,39,599	8,36,07,189
	Grand Total Million Metric	**72.30**	**73.64**	**83.61**

Source: Inland Waterways Authority of India

We can see in the above table that overall freight transportation through the National Waterways in India has improved a lot. As of now, out of 111 waterways in India, 17 waterways are operational and being utilized for commercial freight transportation.

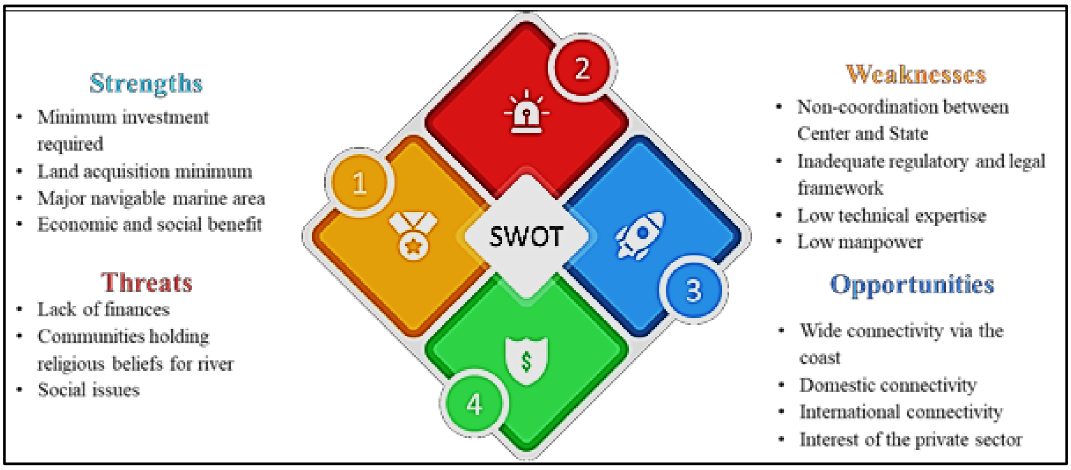
5.4 Institutional Framework for IWT in India:

The post-colonization era of India saw a lot of activities by the government of India for the improvement and the maintenance of the inland water transport mediums present in the country. Some measures were constitutional, while others were strong institutionalized frameworks to shape the maritime trade of the nation. While some of those steps needed a legal and voluntary retirement, others continue to thrive and shape the trading institution of India. The Indian Waterways Authority of India was set up by the government in 1986. It mostly supervised the regulations and development that pertained to navigation and shipping in the inland waterways. The Ministry of Ports, Shipping and Waterways grants funds to IWAI for the maintenance and development projects of infrastructure on IWT national highways (IWAI, 2022).

The Inland Waterways Authority of India was initially established under the IWAI Act, 1985. It is bound to follow the Prevention of Collision on National Waterways Regulations, 2002, and the National Waterway, Safety of Navigation and Shipping Regulations, 2002 (PIB, 2022).

Central Inland Water Transport Corporation Limited or CIWTC was another company under the government of India to look after the inland waterway trade and transportation. It was consolidated under the constitutional law of the Companies Act, 1956(www.pmindia.gov.in). Henceforth, established in Feb 1967, the CIWTC mainly took control of the liabilities and assets of the previously known River Steam Navigation Company Limited. However, the CIWTC was put under a Voluntary Retirement Scheme in the year 2015. It was becoming evident that CIWTC was incurring heavy losses over time as it took over the liabilities of River Steam Navigation Company Limited (www.pmindia.gov.in). The Indian Waterway Authority of India or IWAI needed an institute to develop and look after the human resource department of the IWT of India. Hence, under the Inland Vessel Act, 1917, National Inland Navigation Institute (NINI) was set up. Apart from the operation of inland vessels and the development of inland waterways, NINI also arranges vocational courses on the same (www.niniedu.in).

Table 5.3: SWOT analysis of the IWT of India



Source: www.iwai.nic.in

The table gives a quick peek into the advantages and the disadvantages that Inland

Waterway Transport of India is bestowed with. IWT has a wide coverage of sea area, with 111 national waterways transportation routes. But it also has disadvantages that are legal and constitutional in nature. Furthermore, the IWT provides a number of benefits including inter- linked connectivity to internal states as well as external. But it has obstacles like social and financial challenges in its path of development. It becomes essential for the Govt of India to come out with strategies that balance the pros and cons, alongside, offering its citizens a sustainable mode of freight transportation.

India shares a history with other nations through its marine transportation qualities. It was a hub of trade during the Mesopotamian rule, with Lothal being the center. Furthermore, it was through the same sea route that the British came into India for trade and colonized it. The Govt of India understands the value of its Waterway freight transport medium and has authorized institutions to maintain and enhance it. Some institutes of Indian IWT like CIWTC shut down due to financial reasons, while others like NINI and IWAI continue to provide their service in maritime transportation.

5.5 Challenges of Inland Waterways in India:

India has the widest connection of Inland waterways that can be utilized for transportation purposes and reduce the pressure on other modes of transportation. Unfortunately, IWT of India has its share of lacunas which hinder the process of attaining it. In order to have a sustainable development of maritime through the inland waterways of India, it is important to pay attention to the hydraulic workings in the freight transportation systems and vessels. Harmful chemicals have the potential to destroy the marine ecosystem, while banning them completely may affect the infrastructural development of the vessel (de Barros *et al*, 2022).

Regulation becomes an essential part of inland waterway transportation of India, especially having 111 national waterways. The constitution has divided the authority over various aspects under different lists. Countries like the EU and Canada have an organized agency established. Unfortunately, developing countries like India struggle with regulatory authorities over maritime trade (Solomon *et al*, 2021).

In order to have inland waterway travel, it is also important to have acceptance among all the domestic and geopolitical players. There are pending projects like inter-River Linking Projects under Water Resource Ministry with budgets of Rs. 350.05 crores hindering the connection and potential relation between domestic and international states through the development of inland waterways (Mehta, & Mehta, 2018).

A certain degree of financial stabilization is required to focus on the sustainable aspect of freight transportation through inland waterways. Economic sustainability is attained through the creation of opportunities, both technical and technological in nature (Ilchenko *et al,* 2021). With respect to the Indian scenario, there has been a crisis of investment for infrastructural building between the govt and the private sectors. Integrated development is an essential component of establishing a sustainable transportation mode via waterways. Many countries depend on it for cheaper access to cargo products via waterways than road or rail.

South Asian countries hold the potential to excel in this mode (Rasul *et al*, 2021). But it gets hindered as it requires efficient management of long-term cargo commitments. Apart from the tourism dimension, the riverine mode of freight transportation gets heavily influenced by the diversions of traffic. Since the inland waterways are hardly organized and maintained, the charges of transportation costs exceed that of receipt (Silas, 2018). As a result, the business owners find other modes of transportation more cost-effective.

5.7 Sustainable Strategies of Indian Government for Improvement of IWT:

Sustainability is the demand of the current time. It is also the emphasis of global associations of the United Nations. Further to the above, in order for India to be a renounced member of all these associations on a global platform, India too has to come up with strategies to imbibe it. The government of India has been working on various strategies to induce sustainable development in its Inland Waterway Transport mediums. Not only does it offer the nation a chance to reduce its carbon footprint but also offers the benefit of indulging its citizens into a more organized way of conducting business through maritime trade.

Waterways are a key element connecting the transportation network to a market worldwide. A huge percentage of the trade across the globe happens through sea routes (Bahl *et al*, 2022). One of the strategies of the government of India is to encourage the association of private associations in the orientation of port operations and activities. The private companies have been invited to bid on a basis of revenue share for the BOT or build-operate-transfer terminals (Patel, & Bhagat, 2019). Public-Private Partnerships or PPPs are the new approach of the government to enhance the port operations at the dock.

It improves the socio-economic condition of coastal transportation as external players take part (Bahl *et al*, 2022). Private sectors are also more inclined toward participating in freight transport projects which are domestic as well as a cross border in nature (Bisbey *et al*, 2020). Not only do the inland waterways connect to all the domestic trade routes, but also routes to international ports. The Govt of India has been promoting the policy of DBFOT, or the Design, Build, Finance, Operate, and Transfer to attract foreign and domestic PPP investors for improving maritime terminal conditions (Bahl *et al*, 2022). The Indian government has set up the National Maritime Development Plan NMDP and investment over Rs. 41,200 crores have been raised to improve the 12 major ports of India (Patel, & Bhagat, 2019). The government of India has opted to share the revenues generated by the maritime trade routes with the private investors to improve the waterways and make them more accessible in terms of ports and docks.

One of the major strategies incorporated by the Government of India to improve the Inland Waterway Transport was to increase the traffic on these maritime routes. One such initiative under this strategy of the Indian government was Jal Marg Vikas Project (JMVP). It has also financially assisted by the World Bank (www.pib.gov.in). The IWAI strategically organized Ro-Ro or Roll-on/Roll-off cargo ships for the development of the Inland Waterway Trade route. Along with that, some RO-Pax ferry services were also inaugurated to create more awareness about the maritime trade routes and to make them more sustainable in the long run(www.pib.gov.in).

The Inland Waterways Authority of India or IWAI came up with one of the most necessary strategies to enhance the transport via waterways and to maintain a sustainable angle to it. IWAI attempted to implement digitalization in the maritime trade business. As a result, the online portal CAR-D or Cargo Data was compiled. It offers the required information to the businesses, which includes access to data displaying the capabilities and potential of freight transports under IWT (www.iwaicargoportal.nic.in). The IWAI also came up with PANI or Portal for Assets and Navigation Information. It offers the ease of information to the cargo managers by providing information related to navigation through National Waterways of India (www.pani.iwai.nic.in).

In order to improve the inland waterway transportation, the IWAI conducted a stakeholder consultation in the financial year 2019-2020. Some of the initiatives discussed were fairway development works like improving connectivity between the NW1 and NW-2/ NW-16 through the protocol route of Indo Bangladesh. Alongside, it had operations and management of IWAI terminals on a PPP basis, like the IWAI terminals of NW-3 and NW-16 (www.iwai.nic.in) given the pandemic, the IWAI organized a webinar for the Financial Year 2020-2021. Some of the strategies discussed for developing the IWT of India were leveraging IWT's connectivity to enhance the competitiveness of Indian Maritime Industry (www.iwai.nic.in).

The government of India has been coming up with a variety of sustainable strategies to improve its IWT with consolidation from IWAI and RBI along with World Bank for funding purposes. Furthermore, it has also offered shift modals like PPPs to attract private firms into investing in the maintenance of Waterway ports. In order to improve the information transfer, the government of India has also come up with online portals like PANI and CAR-D, which offer ease of obtaining information about cargos and waterway traffic. Alongside, the government of India has also brought into rolling, service vessels, for freight transportation and tourism.

5.8 Potential Benefits of Sustainable IWT to Nation:

Sustainability of inland waterway freight transport is the necessity of time. Irrespective of whether a country belongs to a developed or a developing economy, it is essential that the country comes up with sustainable modes to proceed with in present times. India is one such country that understands the importance of sustainability and its potential impact on three levels; industrial, individual, and environmental. The benefits of having sustainable inland water transportation do not stay limited to the economic sectors but also get percolated to an individual level, and also play a massive role in protecting the ecology of the environment. The development of the IWT of India opens the scope of sustainability of the nation. The concept of having sustainability in business points to the capability of the industry to thrive in perpetuity. Its development ought to make way for enabling a co-existence in partnership between the profits attained and the amount of carbon footprint left (Sztangret, 2020). With progressing times, clients are more inclined toward combining with companies that have a higher economic impact (Geerts, & Dooms, 2020). A developed waterway would mean easier transportation of goods and cargo at a cheaper rate, which in turn will lead to more business players in the investment market. The incorporation of shift models like the PPP investments in these ports will ultimately result in profit generation for the business and the nation's economy.

The above table shows how usage of Inland Waterways has the potential to decrease the cost of living for individuals of the nation. Cities that are situated near water can use various modes of water freight transportation. The service provided by the inland waterways for transport of passengers as well as freight will be quicker and easily accessed than roadways or airways. It will increase the habitation of the population in those areas and boost up the prevalent economic market (Wojewódzka-Król, & Rolbiecki, 2019).

Development in the Inland Waterway transport system will enable an improved planning of marine traffic with better techniques of navigation. As a result, it will lead to regulation in port and shipping fees, and ultimately reduction in the price charged by the community at large (Wojewódzka-Król, & Rolbiecki, 2018).

Sustainability of the environment becomes an important element, especially when there is a global vigilance to improve the quality of air, water and other environmental conditions. The government of India has declared 111 National Inland Waterway Transport routes. Inland Waterway Transportation is considered one of the least detrimental freight transportation modes to environment and ecology, making it an essential mode of transport for sustainable growth (Kotowska et al, 2018).

A modal shift in the transportation medium from land based to Inland Waterway based will benefit the transport market by achieving a safe, eco-friendly and effective transport medium that is also sustainable in nature (Samanta, 2019). Sustainable waterways provide an essential block for the development of any place. Having a sustainable freight transport system in the nation through marine will reduce the consumption of motorized transport and give way to ecological friendly low emission transport modes (Wojewódzka-Król, & Rolbiecki, 2019). The Government of India has called in the PPP model for investment in its inland waterway transportation. Furthermore, a freight transportation medium that is cost-efficient will eventually lead to more external players getting and investing in the marine transportation sector. As a consequence of using cheaper modes of transportation for cargo, the price of commodities will automatically reduce, leading to a better lifestyle for the nation's individuals. A reduction in the usage of roadways and Airways will also show a decrease in the population level and ultimately lead to a sustainable economy which also protects the ecology of the place.

5.9 Conclusion:

This research thoroughly presents the historical developments made in India's inland waterway freight transport. Further, it discusses about the challenges country faces in implementing sustainable maritime freight transportation regulations. Some of the major challenges the inland waterway transportation of India faces can be categorized as financial, regulatory, and constitutional in nature. There are approaches and strategies utilized by the government of India to overcome them. The Government of India incorporated the development model of PPPs to rope in foreign investors for the development of these waterway ports. Alongside, the Government of India also came up with strategies that involved giving information about the maritime traffic and other necessary details to the business of transporting cargo through these waterways.

E-governance was also incorporated to make this information widely accessible and easily navigable in nature, like CAR-D. These strategies and policies have a sustainable dimension to them, which is profitable for the industries, beneficial for the citizens, and low on carbon footprint and environmental destruction.

The objective of this research was to locate the sustainable feature in the development of Inland waterway transportation in India. Even though only 0.3% of cargo transportation is made through maritime mode, it shows the extent of sustainability it holds the potential. There is further scope for the study of this topic with the emphasis being laid on international relations and improvement in diplomacy between India and its neighboring countries through inland waterway freight transportation, and the role it can play in achieving global sustainability.

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6. A Conspicuous Approach: Redefining the Essence of Sustainable Luxury

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Abstract:

Sustainability is the everlasting consensus of the earth. In-depth geographical and socio-economic advancement accompanied by eco-friendly apprehensions, jeopardizes the lives of futuristic cohorts. The impetus of this paper is to analyze the shape of sustainable luxury and the contributing consumer behavior by critically examining and amalgamating the increasing but grounded scholarly work on the challenges faced by sustainable luxury. Undoubtedly, to say that luxury has always been a point for communal condemnation: it would certainly be apathetic, if not at cross purposes with sustainable growth imperatives. For decenniums, this segment hasbeen persistently thriving thenceforward. Concentrating on distinct products and customer set, critics indicate the outcomes associated to this sector which is wasting of resources exclusively for the contentment of a favorable few. Luxury captivates unusual consciousness for, beyond environmental impact whereas, sustainable advancement speaks about social equity. The authors have used the secondary literature to capture qualitative data and have illustrated via narration. In context to the subject, they have further attempted to elaborate better understanding on sustainable luxury. The data has been cross verified and triangulated by interviewing individuals connected in the ecosystem. In the present study, the authors intend to explore the associations between luxury consumption and sustainability, investigating different attitudes and imbroglios of consumers towards sustainable luxury.

Keywords: *Sustainability, Luxury brands, Strategy, Sustainable luxury, Sustainable development, Green processes*

6.1 Introduction:

The terms, luxury and sustainability are juxtaposed an entirely two different parallel concepts. Unfortunately, luxury pinnacles the societal imbalance, however, it not at all build it. Depicting as paradigm of standard facet, luxury will have to take a move as a newer version in sustainable terms.

Amongst the list of luxury brands, plethora of them has been responsive towards the call of sustainability, though with scant communication. Still much remains unexplored. At the very first position, luxury is well inclined to advance without restraint in its sustainability area: its outcomes are certainly enduring in nature being manufactured from the finest quality of materials and the civilization of conveyance across cohorts suffuses the entire length. As a boon, luxury is economizing the globe without arduous efforts. Contrarily, this sector has negligible awareness from the sustainable or the green development reformers. Despite, this scenario is remodeling. Although, the contribution towards green aesthetics is comparatively greater from the other sectors, even the luxury brands have acquired unscathed fame, to maintain these standards.

For decenniums in a row, the luxury segment has observed tremendous growth; thenceforth, luxury entities have been the cynosure of numerous researchers. Correspondingly, this evolution was delinquent since luxury commodities frequently function as industry models, a shift towards sustainable luxury can pave the way for more sustainable mass products on a broad scope as well. Thus, a profound understanding of the mechanisms behind the successful combination of luxury and sustainability can provide insights for both enhancing individual firm success and achieving a shift towards more sustainable products, which is desirable from a societal perspective. To foster this research stream, the present paper provides a systematic literature review on luxury and sustainability in a broader sense, which, based on an inductive approach, identifies the various areas covered by existing research.

This allows critical reflection of what is still missing in the ongoing discussions and shows where priorities within research have been set. This research also investigates the degree of responsiveness of the hardcore loyal luxury customers especially to the genesis of sustainable expansion.

Consideration of environmental aspects with regard to any sector has been one of the arduous challenges in the present context. The environmental evaluation yet remains a major challenge both from the consumer's as well as the organization's ends. (Johnston et al., 2011; Verbeke & Viaene, 1999). The luxury sector was initially hesitant and dubious in entering the green processes due to the risk of losing their brand image. Nevertheless, now millennials, Gen Zers have been selective in choosing environment friendly products even when it comes to luxury. Though, the two terms are contrary to each other but the amalgamation of the two is no more a challenge now. Existing literature on the subject investigates the challenges of sustainability in the luxury segment and significantly pivot the holistic (360 degree) approach i.e., from manufacturing to production, marketing & advertising strategies, to reaching the hands of customers.

6.2 Literature Review:

The literature review was conducted with the help of scientific repositories such as Google Scholar, Google Search, Emerald, and Scopus. Searches were performed using the keywords like: Sustainable luxury, luxury consumption, green luxury, factors of luxury consumption, etc. Subsequently, studies that addressed the factors and models involved in impacting sustainability in luxury domain were identified and reviewed.

The outcome of these searches, which were conducted for 10 consecutive years, i.e., between 2012 and 2022, helped in establishing the theoretical and analytical foundation of this study. The literature review also demonstrated that most of the studies were based on certain model assumptions and conceptualized from the perspective of developed strategy.

6.3 Theoretical Framework of Luxury Brands Following a Socially Conscious Approach:

6.3.1 Approach towards Sustainability:

Amidst the major financial repercussions, one of them being the closure of stores that the luxury suffered during the COVID-19 pandemic; even though fortunately, the masses started showing greater concern for the planet wherein majority of consumers did accept that it has become crucial to be more responsive and limiting impacts on causes disturbing the earth in general, amongst the list of luxury consumers practices, preferences of consumers have been currently more affluent towards sustainable luxury encompassing significant shifts in their lifestyles, purchase decisions, purchase behaviors, expectations towards green packaging, etc.

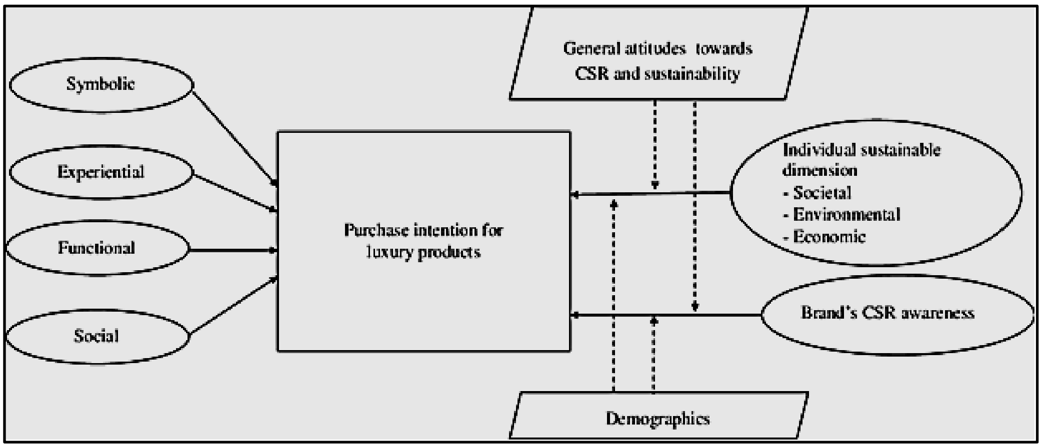

Figure 6.1: Model depicting luxury purchase intent in relation to CSR impact

Source: Olsanova *et al.*, (2018).

6.3.2 Insistence on Social and Green Adherences:

Whilst the conglomerates are restructuring for the adjacent standard, the prime consideration should be to incorporate greener manufacturing practices and uphold the eco-friendly normal that consumers are now looking at; as a value add on to the product as well as environment. While buying the luxury products, usage of sustainable stuff has been one of the important factors for the customers when selecting luxury entities.

Even the promotions are following a similar eco-friendly approach to reach the target audience and thus, establish the image of 'sustainable brand'.

Altogether, it is essential to assemble confidence and lucidity from customers' ends especially for those who fall in the category of brand loyals and contribute for maximum revenue generation for these brands. And when customers stick to the brand they know, their expectations significantly arise; be in terms of trust factor, quality, etc. Especially, the millennials and Gen Zers do not like switching to the other brands, once they are satisfied by the brand of their first choice.

6.3.3 Shift in Purchasing Behavior:

On an average, customer confidence has been low post-pandemic, thus resulting in moderate recovery of recession. Consequently, the revamp in their expenses on luxury has been considerably fluctuating and this trend is still continuing.

6.3.4 Responsible Luxury:

Considering examples from this industry, majority of luxury brands have ceased the use of fur and leather even though the products have generated huge profits for the firms. There has been no choice other than to opt for faux/synthetic/artificial leather, fur, hides, etc. The passion yet remains same to create the products with the same zeal but obviously following a greener mechanism. The consciousness for the environment is continuously increasing, thus challenging the luxury brands to create sustainable business models in order to survive in the long run. Even the customers have been showing greater awareness levels in the last few years towards the planet and indeed opt for brands which have lesser adverse impacts on the environment. For instance, the term ***'Guccification'*** has been coined by the company itself to suffice with its intent of producing its entities such as clothes, accessories in a way that they present Gucci designs without causing harm to the planet. The concern here is not merely confined to product portfolio and services but also towards the gamut of manufacturing processes, raw materials, packaging, products, services and in fact the entire process of a value chain. In adherence to the green and sustainable concepts, the brand launched its first collection as 'Gucci off the Grid' to aggrandize the model of circularity which involves a visionary strategy. Similarly, Armani, Louis Vuitton, Versace, etc. have been following the concept of sustainability or green practices. A few have already reached their benchmarks in green aesthetics even before their deadlines. And apart from buying eco-friendly luxury entities, the customers have started showing interest towards the second-hand luxury as well which contributes in the reduction of carbon footprint, thereby saving the planet. By acting as a catalyst, Covid-19 pandemic has changed consumer trends of luxury in terms of increasing demands for sustainable entities (Giri *et al.* 2022). Consumers showed willingness towards rental luxury as compared to owning luxurious entities (Pantano E. & Stylos N. 2020). Consumer psychology towards luxury consumption is governed by a gamut of tensions in context to self and external forces. (Dubois *et al.* 2021). The world of luxury definitely has a fascinating history, perhaps a complicated one with green practices.

And, just like every other organization, the luxury segment too needs transition by mitigating irresponsible or harmful practices causing environmental damage. Even the government has imposed certain restrictions to ensure that the planet does not undergo severe damage and is progressively pushing the firms towards green practices.

But the real change will arise only with the increasing interest of the consumers, thereby, contributing to everyone's benefit. Sustainability primarily encompasses three pillars: people, ecosystem and economy. Even the limited-edition luxury items are diluting the consistency of not adapting the environmental aspects. The brands have been continuously adding new dimensions like zero scrap production, adopting green production lines, using natural dyes, thus, enhancing a benchmark towards a more responsible future in the fashion world. The designers are using innovative ideas by restyling the vintage outfits; renovating old or traditional weaves; making use of stuff like organic linen and cotton; vegan or faux leather; cruelty free processes of manufacturing; lowered water usage technology- all these practices have already been adopted by the giant players across the world. The concept has gained much progression from Millennials and Gen Z due to their awareness and concern towards the nature.

The exclusive labels like Gucci, Armani, Chanel, Stell McCartney have already begun working on their game plan of curtailing carbon footprint and ensuring transparency in supply and logistics by adopting labor friendly processes. Moreover, the brands have voiced the support of various celebrities in their eco-routes. Demand for conscious products has been increasing tremendously since last 5 years: especially post Covid-19 pandemic. The recycled couture does not confine itself to particular designs: rather it consists of growing number of explicit designs which are wooing the shopaholics with their circular and ecological layouts. The most expensive things in the world come from finite number of resources (Cabello, 2022). Being highly polluting, fashion reuse and recycling adds weightage to the life cycle of its products. (Strasdin K., 2020). The reports of McKinsey specify that the current greenhouse emissions by fashion luxury brands have been estimated to be approximately 2.1 billion metric tons globally. And apart from greenhouse emissions, water consumption is another major issue in this area. The reports of UNEP (United Nations Environment Program) stated that fashion industry water usage accounts to215 trillion litres every year. It further mentioned that textile dyeing ranks second in polluting waters globally. Few brands have been incorporating usage and advice instructions on how to take care of the goods for a long run. One such example is Valentino. Real-online luxury marketplace, is also influencing the consumers by selling second hand luxury, thus, promising a circular future in fashion. The other interesting move has been made by the Italian fashion house, Zegna which has been planting trees as a part of its 'Zegna Project' and has successfully created a nature park to minimize the adverse effects on the landscape. 2023 onwards, the brand's aim is to plant 10,000 trees in every city, where its stores will be functional. According to the experts, the consumers are willing to pay an extra premium, provided the brand is sustainable or eco-friendly. Fashion luxury is driven mainly by Millennials and Gen Zers who have been inquisitive about the brands if they have taken a step towards green practices. Consumers ensure if the brands are actually doing justice to the environment and not only creating pieces which are just a piece of fashion. Sustainability has indeed made a difference not only in the production processes and waste management but also in the minds of the consumers. The firms are also inviting the customers to sell back their used luxury products in the market so that the pieces can rotate towards the consumers who are looking for second hand or pre-loved luxury.

Embracing green implementations has become inescapable in this segment, and unfortunately, it appears at a cost which may be 50-60 % greater than the former prices.

Moreover, recycling a product may not be that expensive but the brands are bound to design in such a way that newer products come up, instead of the already existing old designs. The transformation is also a form of investment (Cavalli E., 2022). A plethora of luxury brands, have already pledged to become green or eco-friendly.

Table 6.3.1: Summarization of studies outlined in the literature and relevant to the current study

Underlying Mechanisms	Year/Authors
Perceived fit acts as a major component in affecting attitudes of consumers for luxury products	Janssen *et al*. (2012)
Comprehending the importance of a brand in context to the natural environment and society is predominant to the advancement of CSR activities	Cervellon M.*et al*.(2013); Bendell *et al.* (2013); Donato*et*
Compatibility level between luxury and sustainability can be examined by a range of attributes (like durability, exclusivity, etc.) and ingrained tensions (status, distinctiveness, self-indulgence, etc.)	Cervellon M. & Shammas L. (2013); Osburg *et al*. (2020);
In spite of therising concerns of consumers about the greener planet, the responsibility towards the brand remains a secondary selection parameter, the primary being intrinsic brand quality	Achabou A.A. &Dekhili S. (2013); Sun *et al.* (2022)
Sustainability is the future of almost every business because it not only makes economic sense, but is also compelling for the masses, the planet and preserves esteem	EstherM. (2014)
Conveying status symbol by exhibiting luxury was conceptualized negatively and was altogether imposed upon solitaries	Benjamin G.V. & Beckham D. (2014)
Sustainable luxury denotes the creativity of variousnationalities, safeguarding the regional cultural heritage	Gardetti M.A. (2015)
Sustainable luxury purchasehad more influence than conspicuous luxury purchase (SLP>CLP); leading to repurchase customer intent towards sustainable luxury	Ki C.W. & KimY.K. (2016)
The SLOW model i.e. (Sustainable luxury for over all well-being) gives dimensions to different sustainable strategies with different axes where X-axis denotes the firm's requirement of managing the business; and Y-axis gives a clear picture to firm's need in creating a social ethics.	HashmiG. (2017)

Underlying Mechanisms	Year/Authors
Additional dimension has been added in redefining sustainableluxury: translators, exceptors, selectors	Henninger*et al.* (2017); Li J. & Leonas K.K.(2018)
Key determinants pertaining to purchase intention of sustainable luxury is mainly four fold: lifestyle, self-gratification values, people-oriented values and lucrative value	Jain S. (2018); Kim*et al.* (2022)
The three fold themes that have emerged in context to sustainable luxury are concerns from consumers' perspective, concerns from organizational perspective and global issues	Athwal *et al.* (2019)
Extension of the model of the theory of planned behavior in addition to the materialistic dimensions like generosity, resentment, etc. redefines sustainability in terms of luxury	Kaur*et al.* (2022)
Internalized luxury has been addressed as consumption of luxury driven by independent style, whereas externalized is contrarily confined to luxury consumption exclusively driven by lifestyle.	Colella *et al.* (2022)

6.4 Conclusions and Future Implications:

The findings manifest that luxury customers possess contradictory viewpoints in a manner that they comprehend the terms: luxury and sustainability paradoxical to a certain extent, peculiarly with respect to the communal and lucrative consonance facet of sustainable aspect. Perhaps, a more intriguing strategy is required focusing on authenticity. A luxury game plan is the utmost strategic move which triggers green practices. At the moment, an intense evaluation divulges to what extent are sustainability and luxury segment are correlated with each other or complement one another, but in actual; the genuine luxury: both consider exclusivity as their prime apprehension and genuine luxury is definitely persistent. Thus, as retaliation to the universal impact of the luxury industry, its interest towards sustainability, and significantly increasing academic interest for this dilemma, the authors contribute their current work on sustainable/ green luxury marketing and customers to further argue critically on the educational endeavors considering this segment and set a more reflexive future proposal for research. On the basis of current study and prior literature, the authors intend to contemplate a stable perspective by the identification of certain significant factors that either assist or impede the acceptance of sustainability /green concepts in this sector.

This essay further contributes in creating a framework for further research implications in the area of sustainable luxury and thus synchronously foregrounding the relevance of the subject in a general context.

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7. Prospects and Problems of Moonj Handicrafts: A Case Study of Amethi DistrictUttar Pradesh

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Abstract:

Handicraft is handcrafted or handmade products often used for daily use or for decorative purpose. These products are created or manufactured by using semi or non-automated tools. Most of the handicrafts have their own peculiarity and uniqueness in terms of design, nature, material and glance. One of the reasons for their high demand is because they require lot of skill, hard work and patience to create a handicraft. While most of the senior artisans follow the traditional designs and work, young artisans prefer to make innovations as per the requirement of current needs. Art of handicraft is an old age activity which marks their presence since ancient civilization of Indus Valley and Mesopotamia. They are in high demand due to their aesthetic design and looks but some handicrafts also possess religious and cultural significance. Rural handicrafts are considered as an authentic face of craftsmanship. In the contemporary world, handicraft sector is one of those sectors that has continuously contributed to the growth and development of the country and attracted attention of handicrafts enthusiast and tourists. Handicraft sector is one of the allied sectors of agriculture and considered as the backbone of rural economy. Globalization has minimized the gap between the handicraft artisans and their potential consumers. With the onset of various e-commerce giants, it has become easy to deal in the handicrafts. Handicrafts help in grooming the skills of artisans, generate employment, and make them self-reliant. The sector contributes to the livelihood of vulnerable sections of society like backward classes, women and ethnic minorities. Most of the artisans create the handicrafts from their homes which leads to high involvement of women artisans in handicraft sector. India is known for its rich cultural heritage and tradition. The handicrafts have provided significant amount of earning to the country. The reason for growth of the handicrafts is continuous researches conducted by the researchers in different parts of India. These studies have contributed to the livelihood of the artisans. Amethi is one of the districts of UP situated on the banks of river Gomti in eastern UP which is popularly known for Moonj handicrafts. About 1500-2000 artisans from this district are involved in this form of handicraft. The aim of this paper is to explore the opportunities and challenges of Moonj handicrafts. Data was collected from 150 artisans residing in the three villages of Amethi and involved in Moonj handicraft business through interview schedule. Finding revealed Moonj artisans have tried to adjust their creativity according to the contemporary needs of the consumers. Artisans have tried to modify and innovate products based on the aesthetic appeal, uniqueness, vibrant color combination and multipurpose use. The changes have resulted in enhancing the sale of Moonj products. Building up the physical and social capital has positively impacted the growth of moonj artisans.

Yet, several rural artisans indicated to abandon this traditional art-form due to the lack of —funds, governmental support, infrastructure facilities and community support. Growth of moonj handicrafts has potential not only to aid the artisans for their subsistence but will also lead to their empowerment. This study highlights that it will support the policy makers in devising corrective actions to overcome the challenges and ultimately develop platform for Moonj artisans.

Keywords: *Problems, Opportunities, Moonj Handicraft, Artisan, Amethi, Uttar Pradesh*

7.1 Introduction:

Handicraft is the artistic result of the artisans. They are usually created by the hand or using tools which are not mechanized. The handicrafts are in high demand due to their aesthetic look, creativity and vibrant colors. Handicrafts are more prominent in rural parts of the country and often linked with the emergence of mankind. The first handicrafts were invented by the primitive man in form of tools and weapons like axes, spears, and microliths. At that point of time, they were invented in order to get protection from wild animals and for their survival. Later on, the handicrafts begin to evolve as more creative and attractive as the civilization proceeded further. Development of art and culture led the flourishment of handicrafts and it became the integral part of human civilization. Handicrafts are the creativity of individual's opinion, emotion but sometimes they portray the cultural aspirations of the society. The skills of artisan undergo various changes from the beginning of civilization to the present era. The artisans kept on polishing their skills as per the contemporary requirement.

Handicrafts are created using raw materials which is locally or easily available. Artisans invest their manual labor and skills to create a particular handicraft. The investment involved in creation of the handicrafts is usually low but the mental and manual skills of the artisans increase their value thereby. The crafts give the sense of belongingness to their culture, heritage and society. In recent years, handicraft sector witnessed escalation due to cultural and environmental awareness.

7.2 Handicrafts of India:

Handicraft sector is one of the most promising sectors of India both in terms of generating revenue as well as employment. Indian handicrafts are eminent in world for their rich diversity, cultural significance and preserving the heritage of India. The sector plays a significant contribution in informal sector of Indian economy. The sector provides livelihood to approximately 7 million artisans of India and in majority it includes women and weaker section of the society. History of Indian handicrafts marks its genesis in the lap of Indus Valley Civilization (IVC). Some famous artifact of IVC are bracelets, beats, terracotta figures, jewelry, amulets, shells and stone crafts. In that era, they were usually traded with European and middle-east countries. There was a deviation in the handicrafts of India during Gupta Age (3rd century) CE, art of sculptures and jewelry making flourished during this period. This period was often referred as 'golden age' by historians. While in Mauryan period beautiful stone carving flourished we can witness such epitome art in the Sanchi Stupa and other stupas in peninsular India.

Subsequently in coming century intricacies of design in textile and use of pietra dura technique with marbles prospered during Mughal rule. Jahangir himself and his wife Mehr-un-Nissa (Noor Jahan) were patron of art. Noor Jahan was considered as the founder of Chikankari in India. Textile reached its zenith during Mughal rule. She learned the art of chikan embroidery from Iran. The art of Chikankari is still prominent in capital city of Uttar Pradesh (UP) Lucknow. The handicraft of India bloom before the arrival of Britishers. But under the British rule, there was sharp decline in the handicraft sector. The East India Company tried to monopolize the handicraft sector which was a huge setback for Indian artisans. They also tried to impose huge duties and tariffs on Indian handicrafts. Meanwhile, the industry faced tough competition from machine-made of England. Rapid industrialization decreased the demand of hand-made products worldwide. During the British rule, the sector went through challenging times and it was on the verge of decline. Soon after the end of British rule in India, government of India (GOI) has taken several initiatives to rejuvenate the handicraft sector of country. Various efforts were taken up by government and non-governmental authorities to sustain the livelihood of artisans. Measures were related to offering grants, providing market and creating awareness of handicrafts in order to preserve the rich culture and tradition of India. GOI has created the office of Development Commissioner Handicrafts to promote the handicrafts as well as the artisans. Some of the schemes launched by GOI for the betterment of artisans are:

- Mahatma Gandhi Bunkar Bima Yojana - This scheme was launched to provide monetary relief in case of death and disability of handloom artisan.
- Rajiv Gandhi Shilpi Swasthya Bima Yojana (RGSSBY) - This scheme is aimed at health insurance of handicraft artisan. Currently it is merged with 'Rashtriya Swastha Bima Yojna'
- Marketing Promotion Programme – In this scheme, government organizes crafts exhibitions, special craft expos and marketing assistance.
- Babasaheb Ambedkar Hastshilp Vikas Yojna – Under this scheme, government issues identity cards to artisans. It provides the artisans with modern tools and equipment. Government also provides them marketing exposures and also assist them with capacity building and skill upgradation courses.

7.2.1 Handicrafts of Uttar Pradesh (UP):

'Uttar Pradesh' being the most populated States of India is home to distinguish cultures and handicrafts. Handicraft sector of Uttar Pradesh (UP) is a source of livelihood and major contributor in state's economy. UP handicrafts are highly decentralized, unorganized and labor intensive in nature. UP has the largest share of exports in handicraft market of India. The sector provides immense opportunities which contribute to the socio-economic development of state as well as the country.

As per the Census of 2011 the population of UP is 19, 95, 81,477 and coverage of about 2, 40,928 sq. km. Some of the famous handicrafts of UP are Chikankari, Zari Zardozi, Pottery, Carpets, Banarasi Sarees, Leather ware, Metal ware etc. Most probably it is rural population who is working in majority on these handicrafts or they are the one who are making immense efforts to promote these artform otherwise it will be on the verge of decline. Handicrafts have tremendous scope which is still not utilized appropriately.

7.2.2 Moonj Handicrafts:

Moonj Handicrafts or Craftsmanship are famous artwork performed by artisans in districts of Eastern UP and in majority women are involved in this handicraft. The raw material for the craft is obtained from the Moonj or Khasa grass locally known as “sarpat”. The grass is easily available on the bank of river as well as some farmers also cultivate this grass in their farm. Moonj products are created by using non-automated and traditional tools. The process is labor intensive and artisan invest their precious time and effort for such creativity. They are used for making variety of products which includes ropes (Baad), mats, chair, baskets, containers, decorative items etc. These products are totally eco-friendly and attractive in nature. Rope (Baad) is usually prepared by majority of artisans, around 2kg of rope is made by each artisan in a day which is sold in the market for 40-60 INR per kg. Merchant and Trader don’t come to villages usually to collect rope (baad), artisans visit nearby towns to sell their crafts. Artisans have to bear the burden of transportation cost by themselves. Some artisans are highly skilled can make different articles as per the ongoing trend, while some artisans lack innovation and design. Craft has gained much popularity after being promoted under UP government schemeof ‘One District One Product’ (ODOP). Moreover, limited literature is available with respect to moonj artisans. This paper is humble effort to investigate the socio- economic condition of moonj artisans, their vulnerabilities and barriers for their livelihood.

7.3 Review of Literature:

Moonj has its mention in religious texts of Hindus. The moonj is considered as sacred and it is religiously significant. It is used during marriages ceremony, old ladies of the houses used to make the baskets of moonj and gift it to their daughters. Though the craft is practiced since last 100 years it has gained recognition by the ‘One District One Product’ scheme of UP government in 2018. (Dev, K. 2020) identified rapid globalization is a serious threat for the livelihood of Moonj artisans. They face tough competition with ready made goods. (Hashmi2012) revealed India has great potential of handicraft due to availability of cheap labor and traditional profession. The sector has suffered a lot due to its unorganized nature, poor policies and institutional framework. (Jain & Sharma 2015) indicated fairs/exhibition, public presence of handicrafts does benefit the artisan, but there is no huge impact of government policies and marketing facilities. (Pöllänen, S. 2009) indicated craft as a therapy, which tends to minimize stress, develops new skills, relaxes mood and enhances satisfaction among artisans. The authors also compared the craft therapy with art and music therapy. Pöllänen, S. (2013) identified meaning of craft as occupation and how it affects their prosperity. She emphasized crafts as stress minimizer and soothing activity. (Pöllänen, & Voutilainen 2018) identified motives of craft-based leisure activities for home staying mothers, it reveals that they could follow their craft-making activity while enjoying their family life. (Wood 2008) identified the role of middlemen (between buyers/distributors and designers) in influencing the aesthetic and economic worth of ethnic handicrafts. (Kanungo, Sethi, and Biswal 2021) indicate that low capital base, less decision- making power in the hands of women artisans, interference of machine products, and the problem of intermediaries block the development of this traditional craft in the current era (Bhat & Yadav 2016) revealed handicrafts is indirectly linked sector of rural economy which aims to eliminate poverty and make India self-sufficient in handicraft needs.

7.3.1 Objectives:

a. To identify the socio-economic condition of moonj artisans.
b. To assess the physical capital for moonj artisans.
c. To assess the social capital for moonj artisans.
d. To explore the strength and challenges of moonj handicrafts.

7.4 Research Methodology:

Handicrafts export from India has increased by almost 2 percent to US$ 3.39 billion in financial year 2020. Similarly exports of handicrafts from UP contributes 44 percent of total exports of the country. The share in terms of export from UP is 4.73 percent. However, moonj handicrafts have not gained much popularity among its buyers due to lack of awareness, poor infrastructure facilities and lower rate of education among moonj artisans. For this research primary data is been collected from three villages (Chota Goriyana, Mau Atwara and Rudapur) of Amethi district. The data is collected from 150 respondents, 50 from each village via snowball sampling method. The data is collected via open ended schedules from moonj artisans in their natural environment.

The data reveals moonj artisans' notable percentage of moonj artisans belong to Hindu community. Out of total respondent's 46.7 percent belong to other backward caste (OBC), 43.3 percent to scheduled caste (SC), 6.67 to scheduled tribes and 3.33 to general category. The percentage of male and female moonj artisan was 10 percent and 90 percent respectively. Majorly moonj artisans are female and married because it is feasible and they can easily complete the household work along with moonj artistry as most of the artisans undertake this profession from their home. Income earned from the handicraft making act as additional source of income for them. Moonj artistry is family-oriented craft-making i.e., joint family participation is high as 83.3 percent while nuclear constitutes merely 16.7 percent. On an average artisan can make 2 kg Baad (rope) made of moonj in a single day, in joint family many people are involved in moonj craft-making it acts as additional income and helps in satisfying the daily needs of the household. The data reveals 87.3 percent moonj artisans belong to below poverty line (BPL) and 12.7 are above poverty line. Only few artisans are able to mark their income above 10,000 INR from sale of moonj handicrafts, merely 6.67 percent of moonj artisans are acting as entrepreneur and they are getting regular orders due to healthy connections with retailers, businessman across the country while 93.33 are working under them as employees. The result clearly indicates the socio-economic status of the moonj artisans. It reveals the income is significantly low and they lack basic amenities of living. (See Table 7.1)

Variables	Frequency	Percent
Villages		
Chota Goriyana	50	33.33
Mau Atwara	50	33.33
Rudapur	50	33.33

Variables	Frequency	Percent
Gender		
Male	15	10
Female	135	90
Religion		
Hindu	128	85.3
Muslim	22	14.7
Category		
SC	65	43.33
ST	10	6.67
OBC	70	46.67
General	5	3.33
Education		
Illiterate	105	70
Primary	40	26.7
Secondary	4	2.7
Higher Secondary	1	0.7
Language		
Hindi	137	91.3
Awadhi	13	8.7
Marital Status		
Married	125	83.3
Unmarried	18	12
Widow	6	4
Divorced	1	0.7
Nature of family		
Joint Family	125	83.3
Nuclear Family	25	16.7
Family Size		
Less than 5	28	18.67
More than 5 but less than 10	80	53.33
More than 10	42	28
Socio-Economic Status		
Above Poverty Line	19	12.7
Below Poverty Line	131	87.3
Types of Artisans		
Entrepreneur	10	6.67
Working under Entrepreneur	140	93.33

Table 7.1: Demographic Profile of Respondent

The second objective represents access to physical assets. Physical infrastructure is necessary for the well-being of a person. The data reveals 32 percent of moonj artisans do not have access to toilets which is significantly low.

Most of the artisans use hand pump and well as their source of water. 46.3 percent artisans revealed they do not use internet which is a big barrier to learn or adapt designs which are contemporary in nature.

This leads to lack of awareness and knowledge. 96.7 percent artisans do not have store room to store the raw material and stock. Grass is only available during the months of October and November inappropriate infrastructure leads to loss of raw material.

The results indicate that artisans lack physical infrastructure which is a big hurdle in their path. (See Table 7.2)

Variables	Frequency	Percent
Availability of Toilet		
No	48	32
Yes	102	68
Availability of Portable Water	94	62.7
Hand pump	40	26.7
Well	14	9.3
Tap Water	2	1.3
Tubewell		
Availability of Internet		
No	70	46.7
Yes	80	53.3
Availability of Storeroom		
No	145	96.7
Yes	5	3.3

Table 7.2: Access to Physical Capital

The last objective reveals only 18 percent artisans have access to social security schemes and 26.7 percent are aware of government grants and funding which is very low. 37.3 percent of moonj artisans do not have artisan identity card.

While, only 32 percent attend fairs and exhibition to promote their product. As stated by artisan, lack of education and awareness is a huge barrier for them. (See Table 7.3)

Table 7.3: Access to Social Capital

Variables	Frequency	Percent
Moonj Artisan hold artisan identity card		37.3
No	56	67.7
Yes	94	
Moonj Artisan participates in Exhibition/Fairs/Hunar Haat		
No	102	68
Yes	48	32
Access to social security/insurance schemes		
No	123	82
Yes	27	18
Awareness of government schemes/grants		
No	110	73.3
Yes	40	26.7

Objectives 4 explores the strengths and challenges of moonj handicrafts. Moonj handicrafts are known for their attractiveness and creativity. Being, eco-friendly in nature the handicrafts are in huge demand.

Higher degree of customization has positively impacted the growth of moonj handicrafts. Generally, moonj handicrafts are the result of traditional designs being practiced since long time after noticing growth in handicrafts sector the artisans have tried to develop entrepreneurial skills and capacity building in their products.

They have tried to utilize the different marketing channels by targeting both offline and online sectors to contribute towards the growth of handicraft and economy. In spite of these opportunities there are some hurdles in the growth of moonj handicrafts. Artisans suffer from the problems of infrastructure, insufficient skills, illiteracy.

Raw material is only available in the month of October and November, and non-availability of amenity to procure and save the material is posing difficulty for artisans.

Most of the artisans are illiterate, they are reluctant to adapt new skills and to make products as per the present needs. Moonj handicrafts are labor intensive art-form, artisans invest their hard work but did not get enough remuneration.

7.5 Results and Findings:

The socio-economic description of data reveals that majorly weaker sections of society are involved moonj craft making. From the findings it is clear, married artisans are highly involved in this craft while young generation are reluctant to continue the profession as most of them believe the moonj craft making is labor intensive profession and the artisans do not get the remuneration they deserve. Additionally, majority of artisans are involved in this profession just on part time basis. Only few artisans are joining it as full-time work. The data reveals artisans are not aware of schemes and grants initiated by government.

Due to limited opportunities, they undertake secondary jobs like farming, construction labor, and vegetable seller. Apart from this government should organize handicrafts fairs, exhibitions more frequently to promote the moonj handicraft as well as artisans. They should assist the artisans by providing the infrastructure facility to store the raw materials. In the contemporary world, role of decentralization has gained much significance. The SHGs, NGO and government authorities must come forward in devising training, skill upgradation programs to minimize the gap between the moonj artisans and outer world. Moonj craft making is an old age and traditional art form of India and it needs our attention for its revival. Otherwise, it will result in decline of old age art form.

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8. Barriers of Rural Women Entrepreneurship: A Systematic Literature Review

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Abstract:

Women owned enterprises or entrepreneurship refers to those enterprises that are developed and managed as well as the ownership is registered in the name of a women or group of women. This study is about development of enterprises by the women or women groups who resides in the rural region or entrepreneurship developed in the rural region. The trend of entrepreneurship development among rural women is a new way to alleviate poverty and simultaneously promoting self-employment.

But in the developing country like India, people have the perception that women is only to look after the household activities, her children and thus, not allowed to work outside the home. So, to develop an enterprise is a big task for them and in the gender biased society, women face different social and economic barriers in the way of developing an enterprises. This study explains various problems that women entrepreneur counter while developing an enterprise through the method of systematic literature review.

Keywords: *Rural women, Entrepreneurship, Barriers, Systematic Literature Review (SLR).*

8.1 Introduction:

Growth in Women Entrepreneurship in the last decade (2011-2021)

There is a tremendous growth has been seen in the women based enterprises throughout the world. In last decades, researches have not only shown their interest towards the women entrepreneurship but also have published as many papers in various areas and circumstances.

As per the Scopus database, there were only 29 articles were published in 2011 but within a decade, the number has jumped to 141 articles published in 2021 i.e. approximately 486%growth in the last decade (Scopus, 2022).Entrepreneurship is an economic activity aimed at income generation in the long run and simultaneously promotes poverty alleviation and economic growth. It helps in creating new products and services that stimulate the self-employment and income generation scenario of the nation. In addition, it provides vast category of entry level skill based jobs though training impartment. There is also a direct relationship exists between increase in employment and growth of entrepreneurship (Davis, 2011).

Entrepreneurship has many definitions but the innovation school of thought defines entrepreneurship as one's capability in creating innovative business ideas, exploiting market opportunities, resources mobilisation, strategic action that results in development of a sustainable business entity and rise in employment. Entrepreneur is someone who runs the business entity by taking risk associated and creates profitable economic outcomes. Whereas woman entrepreneur therefore; can be defined as a woman who initiates, creates and runs a business venture and is prepared to take risk. In other words, the whole business entity is owned and run by a women or a group of women community (Igwe et al., 2018).

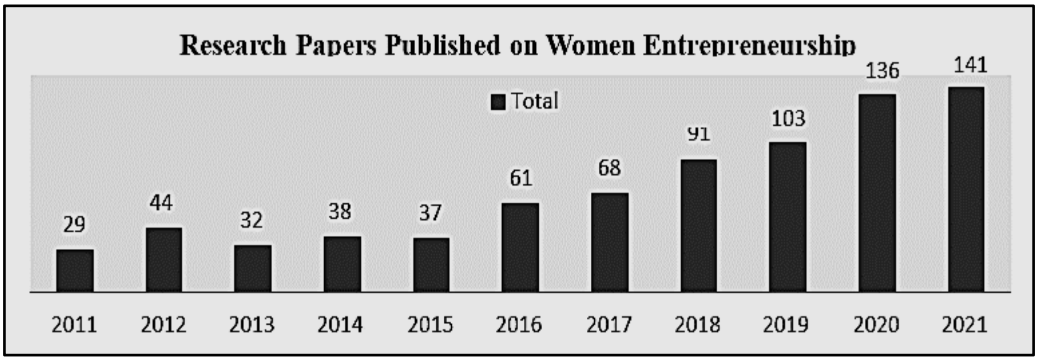

Figure 8.1: Growth of Women Entrepreneurship in the last decade (2011-2021)

Source: Scopus Database, 2022

Figure 8.1 represents the trends in growth of women entrepreneurship from 2011 to 2021. The result has been obtained from the Scopus database on the search string *"Women Entrepreneurship"*. The defined growth is due to the different reasons; i.e. increase in population demands high growth in economic activities so as to balance the unemployment; development of entrepreneurship increases the economic activities that increase income generating opportunities in the long run towards poverty alleviation. It has also been proven by many researchers that entrepreneurship development is the major instrument towards the economic growth and poverty alleviation. Women have more interest and are more aligned towards the entrepreneurship as many government policies are being made for rural and under privileged women to promote entrepreneurship and also to empower them through impartment of socio -economic activities.

In addition, women have unique and leadership role in their household as majority of decisions on household activities are taken by them. Women in majority cases, develops entrepreneurship by a group of women individuals i.e. SHG groups, community groups etc. This equips them with strength and motivation towards entrepreneurship in the society and also breaks the glass ceiling that women are only made for household activities (Igwe et al.,2018).

8.2 Research Objectives:

Women entrepreneurship has direct or indirect contribution towards poverty alleviation, self-employment, creation of income generation activities and economic growth. So, it is necessary to promote a clear and concise ideas and process about the entrepreneurship development among rural women.

In this regard, this paper identifies the various challenges faced by the rural women while developing and running an enterprise. This paper also categorizes different barriers into two parameters such as social barriers and economical challenges. Identification of barriers prior to development of enterprises would be helpful in formulating suitable policies for the rural women to create a sustainable entrepreneurship.

8.3 Research Methodology and Data Sources:

This study is based on the methodology of systematic literature review of articles from scopus database. A total of 33 articles were obtained on the search string (“barriers” AND “entrepreneurship” AND “rural” AND “women”).

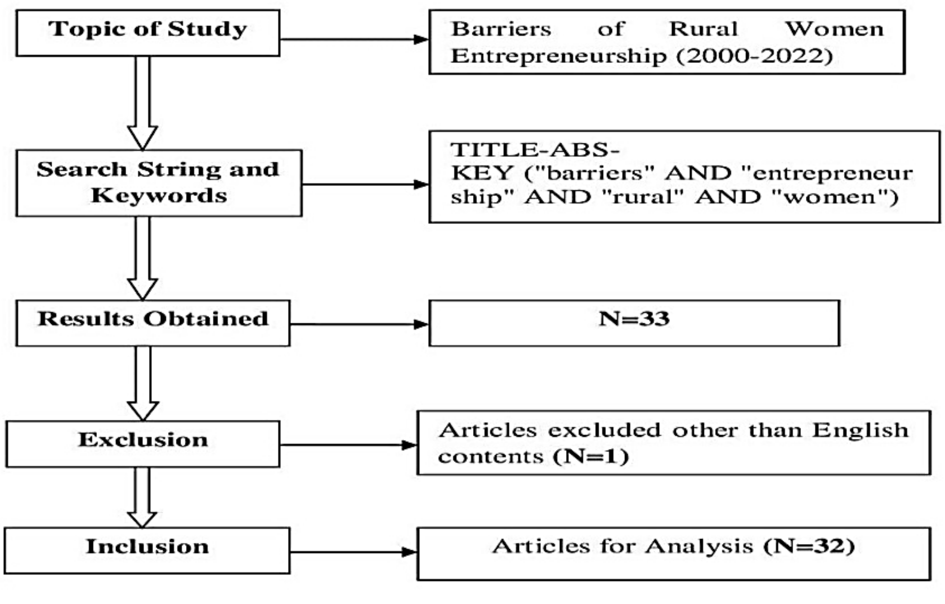

Figure8.2: Systematic search of articles from Scopus databases

Source: Scopus database, 2022

But this study has included only those articles which have published in English language contents. With this filter, one article was excluded and hence a total of 32 articles were finalized for identification of different barriers.

The data sets of the study are based on secondary sources only; which are outsourced from the scopus database for the period of2000 to 2022.

8.4 Barriers in Rural Women Entrepreneurship:

Barriers are any obstacles or challenges that come in a way of entrepreneurship development. Entrepreneurship development among rural women is influenced by the cultural, social, demographic, regional and infrastructural changes in their rural regions.

The motivation and strength of rural women to develop an enterprise is determined by the resource availability, opportunity identification, risk management, family support and financial access. Women's literacy and awareness affiliate them with innovative ideas, knowledge and opportunity.

Women in the rural region are not equipped with sufficient information's regarding entrepreneurship, so they associate themselves into a social network that promotes knowledge and awareness about information's and opportunities.

Even it is also seen that women started generating incomes through entrepreneurship but still lags behind men due to gender biased society. The study has found many barriers to rural women entrepreneurship and is categorized into three main barriers such as social, psychological and economical barriers.

8.4.1 Social Barriers:

Social barriers refer to the various circumstances which are linked directly or indirectly with the society that influences the entrepreneurial activities. Societal factors like business knowledge, awareness, family support, infrastructure, training knowledge, societal perception etc. positively influence the growth and development of entrepreneurship.

Societal barriers have a major impact on the women owned entrepreneurship due to the perception of women being made for household activities in the rural areas. But the inclusive growth of a developing country like India; seems to be impossible if women are not being involved in the economic activities as approximately 48 percent of the population in the country are women according to the 2011 census (Sharmin, 2019).

Women when perform non household activities like entrepreneurial activities, they face discrimination in many ways throughout their life. They have limitations in their network that prevents them in finding new customers, expansion of the market, identification of business opportunities, lacks in awareness etc. (Davis, 2011).

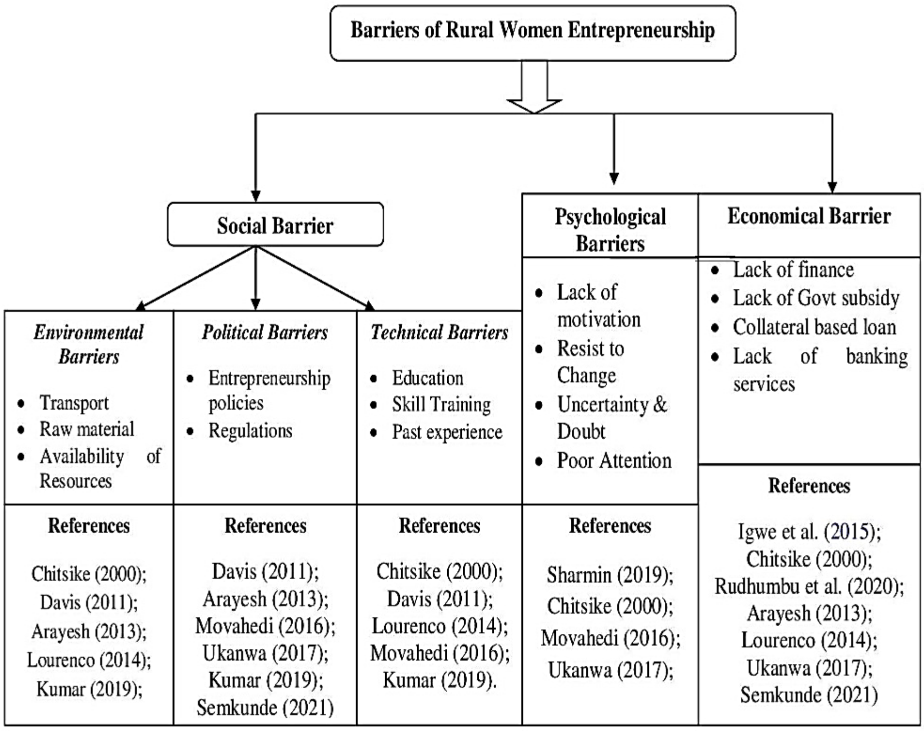

Figure 8.3: Barriers of Rural Women Entrepreneurship

Source: Author

Challenges that women faced in the ways of policies are governments intervention in setting up price, lack of government support, irregularities or ignorance in fund distribution and administrative activities, lack of coordination of government with the stakeholders, agencies that are involved in entrepreneurship, lack of schemes on entrepreneurship and various other rules and regulations (Arayesh, 2013). Another barrier that Lourenco et al. (2014) has witnessed is lack of innovation and creativity among rural women as they don't possess any business family background. Rural women have multiplicity of challenges that impede them to participate effectively in the entrepreneurship development. No right on land ownership, lack of social and business outreach, time constraints due to family responsibility, socio- economic backwardness obstruct them in entrepreneurship engagement (Rudhumbu et al.,2020; Semkunde et al., 2021). Along with this, they lacks in social and cultural capital that creates difficulties in running and developing an enterprises (Rao et al., 2021). The prime responsibility of a rural woman is to take care of her household responsibilities thereafter she is allowed to involve in income generating activities outside the households that too with family support. So, they deprived in work experience, leadership, literacy and awareness that limit them to work in the entrepreneurial activities, so they prefer to work in the informal sector with wages (Chitsike, 2000). Entrepreneurial training has positive influence towards making rural rumen skilful, innovative, expert towards business growth such as market linkage, skill enhancement, information collections etc. It is observed that providing women entrepreneurs with skill training, business literacy helps them help to acquire sufficient entrepreneurship related skills and ideas that is necessary to run the business. Along with training, they also face legal and regulatory challenges that hinder their growth (Rudhumbu et al., 2020). Mohd et al. (2016) has identified some regional or social barriers that disrupt the growth of entrepreneurial activities. These are; finding the right opportunity, suitable marketplace, supply chain network, incapable in promoting the business, limited government support, lack of technological input and corruption in the administrative process. Challenges like lack of knowledge of technology usage, lack of basic education, awareness and confidence increase the technology gender gap (Rudhumbu et al., 2020); Warnecke, 2017). The business durability of women entrepreneurs is determined by the following internal factors such as resource access, creativity, available of opportunity, risk management and most importantly the family support. Some other external factors such as marketing planning, supply chain management, distribution network, marketing process, business communication and supporting government policies are effective in enhancing the business growth and resilience. (Lourenco et al., 2014; Moghaddam, 2021)

8.4.2 Psychological Barriers:

Psychological barriers arise inside a person's conscious mind. Many times, conflict arises within a person due various uncertain events and situations that obstruct the process of entrepreneurship development. Psychological barrier arises from various social disturbances like imbalance between family responsibilities and business activities, family violence and social discriminations (Sharmin, 2019). Living in a male dominated and competitive business environment, women work for their own for starting economic activities or to work in entrepreneurial activities. They face multi dimension problems while taking care of family to running a business simultaneously (Semkunde et al., 2021; Rudhumbu et al., 2020)**.** Many socio-economic barriers that create psychological barrier includes imbalance between domestic work and business activities, family violence, lack of financial access for women that makes them demotivate and psychological upset. In addition, there are also some cultural and geographical barriers that are crucial in the some regions. Societal glass ceilings, low profit making, instability of businesses due to lack of resources also obstruct women in their growth (Emmanuel & Adeyeye, 2021). Most common socio-economical barriers that generates psychological upset towards entrepreneurial activities are access to credit facility, gender inequality, lack of infrastructure, illiteracy, lack of awareness that negatively impacts their entrepreneurial growth (Lourenco, 2014; Warnecke, 2017; Rao et al., 2021)

8.4.3 Economical Barriers:

Finance capital is an important resource that entrepreneurs require in all stage of operational activities in running their business. In India, women in majority cases don't possess the right on land ownership that normally banks and financial institutions ask against loan that serves as the security against loans. In addition, their family and relatives are also unable to provide financial support to them. That is why; they are very much dependent on informal source of income from the money lenders with higher rate of interest (Sharmin, 2019). Discrimination from society, lack in growth and profits derail the progress and demotivate them towards entrepreneurship activities (Rao et al., 2021).

For many women in the rural regions, insufficient capital access, collateral based loan are the major issues that hinders in the way of generating sustainable income and becoming entrepreneurs (Igwe et al., 2018; Rudhumbu et al., 2020). In rural scenario, women see entrepreneurial activities as their survival techniques for sustainable livelihood that will provide them with sufficient food, paying school fees for their children, hygienic sanitation, drinking water but not for the of business growth or profit. But in some regions, women see microcredit as a greater risk to their life and hence avoid in taking loans from banks (Ukanwa et al., 2017). It is also observed that illiteracy, banking procedure, socio-economic status, land size, higher interest rate and distance of banks from village also obstruct rural women in accessing credit from banks (Lourenco et al., 2014; Rudhumbu et al., 2020).

8.5 Conclusion:

Women while starting or running entrepreneurship activities faces various social, economic and psychological barriers that create obstacles. Access to financial capital is the major problems arise among rural women as they don’t get easy loans due to absence of collateral against loan. In addition, lack of sufficient training proves to be a biggest threat in growth of entrepreneurship. Entrepreneurial training helps in developing and enhancing business knowledge and skills. It also helps them in coping up the upcoming market situations, business opportunities and market strategies.

In addition, lack of support from government also creates obstacles in their business growth. The growth of rural women entrepreneurship can be enhanced by providing them with collateral free loans, low interest rate loans, supportive government policies, skill trainings, elimination of social discrimination, building their self-confidence etc. Government should come up with various welfare schemes for the rural women entrepreneurship development in order to achieve the inclusive growth of the country by alleviating the poverty of rural India.

8.5.1 Policy Implication:

A socio-economic self-reliant woman doesn’t only help in economic growth but also solves many social concerns and enhances the standard of living of the country. So, it is our responsibility to build a platform where they can get the opportunity to become self-reliant and build their confidence as well towards entrepreneurial activities. In this perspective, it is strongly recommend that government should focus on reducing the various barriers that women face in running a business.

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9. Student's Learning Engagement during Covid-19 Pandemic

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Abstract:

- ***Purpose:*** *To explore the principal research query as to what role technology-enabled learning has on school students' learning engagement of school students? The research attempts to dissect the learning engagement as an experience during the Covid19 pandemic period, 2020-2021.*
- ***Design/Methodology/approach:*** *The research is intended to examine the learning engagement with four aspects: cognitive, emotional, behavioral, and social aspects of engagement among students in the classroom with technology-enabled learning. It draws from quantitative method with sample size of 103, drawn from one government and one private school.*
- ***Findings:*** *In the traditional classroom, attendance has been viewed as an intermediary on students' engagement. However, attendance is not a surety for attentiveness. With rising technology-enabled learning advancements, students communicate, and interaction alters.*
- ***Future Research:*** *The paper is restricted to one government school and private school only, and generalization needs to be extended. Further examination may be directed using the longitudinal study to broaden the horizon.*
- ***Research Implication:*** *This study encourages educational institutions to emerge with new technology and allow today's students to have added learning opportunities for growth.*
- ***Originality/Value:*** *This is primary data-based research. Based on the analysis, we discuss the paper's discoveries showing student learning engagement with technology-enabled learning. This study will help the researchers, to a certain extent, understand how technology-enabled education effectively improves student engagement and allows the holistic development of students.*

Keywords: *Student Engagement, Virtual Learning, Technology in Education, Learning, Learning during Pandemic.*

9.1 Introduction:

Today, digitalization has had a far-reaching impact on education. Laptops, Internet connection, and learning management systems (LMS) are all part of the digitization of education (Sharples & Sutherland, 2017). Teachers and students increasingly are having access to laptops, projectors, and interactive whiteboards as digital technologies entered the classroom. Besides challenging and reshaping the teaching and learning process, it has been used to highlight how digital technologies were introduced to traditional teaching approaches (Gumundsdottir et al., 2014). Technology-enabled learning in the classroom in this evolving learning environment is usually referred to as "blended learning" (Garrison and Kanuka, 2004) define B.L. as the "thoughtful integration of classroom face-to- face learning experiences with online learning experiences". Active learning classrooms are replacing traditional classrooms in schooling to allow student- centered education (Lee et al., 2018). Classroom development for active learning is part of a more significant educational movement toward students who are active and engaged in their learning (Brooks, 2011). It emerges from a teacher's thoughtful and deliberate attempt to stimulate student engagement in a lesson (Graham et al., 2007). According to (Prince, 2004), collaborative learning is the most successful active learning approach. Interactive learning is a method that teachers use to help students learn and improve their performance. It improves students' ability to think critically (Garrison et al., 2001). Peer learning entails students collaborating and interacting in a class discussion.

The researcher recognizes that the concept of engagement requires further depth. While it is agreed that accessing digital course materials does not ensure meaningful engagement. Student access to learning materials is a factor that influences academic success (Soffer & Co hen, 2019). The researcher recognizes that these more fundamental perspectives on engagement are not often apparent, yet they are crucial to the engagement process. As a result, low engagement, which is linked to inconsistent or insufficient interaction with material has become more apparent. The low engagement has been correlated with student attrition in the literature (Stone, 2019). The word "engagement in digital learning." refers to a student's constant engagement with materials or activities within a digital environment, with the goal of learning. Thus, this paper focuses on whether technology-enabled learning aids student engagement and optimizes the learning experience through technology-enabled education.

9.2 Literature Review:

Student engagement is an important quality measure in the education sector, such as the Quality Indicators of Learning and Teaching (QILT) (Social Research Centre Pty Ltd, 2019). Academics are increasingly expected to promote active education in a variety of ways, with the understanding that such efforts lead to improved student achievement, satisfaction, and retention. However, there is still some ambiguity about what engagement means and how it is interpreted. Student participation can refer to a variety of activities; however, it is regarded as a "complex concept" (Zepke, 2018). Student participation, according to (Appleton et al., 2008), is an ambiguous and multidimensional concept that emphasizes that engagement is subject to interpretation; however, Kahu Furthermore, (Nelson, 2018) introduced a socio-cultural conceptualization of engagement. Others, such as (Krause, 2005), consider student engagement as a "grab word" or an "Expression of the opinion of behaviours" that students use to assist their learning. Student engagement, according to (Muir et al., 2019), is situational and dynamic, with engagement occurring on a dynamic shifting process.

Technology integration has influenced how students participate in learning behaviorally, cognitively, socially, and emotionally. Behavioural engagement is the most common dimension (Bedenlier et al., 2020), where the student has excellent abilities to interact online without the pressure of talking. Moreover, to see how peers structured their questions and responses in interactive online environments.

Less autonomy-supportive environments were the root of the majority of disengagement among students in online learning behaviours (Chiu, 2021). Students who did not complete their part of the group work and did not contribute enough to group discussion forums in technology- enabled learning lost their learning pace. Teachers should consider the importance of students' perspectives and enable alternatives available for learning, and alleviate excessive stress and challenges for students. Students should be allowed to make their own decisions about their individual goals and self-efficacy, engage their voices to seek guidance, and feel more confident in the classroom (Chiu, 2021).

When the online activities were not as complex as communicating in asynchronous tools, such engagement was a reliable determinant of academic progress and disengagement prevention (Chiu & Hew, 2018). As a result, without cognitive engagement and behavioral engagement may indeed be inadequate for effective technology-enabled learning. Furthermore, if students feel inadequate, they will be less keen to continue trying (Ryan et al., 2011). According to (Bedenlier and colleagues 2020), when students did not dedicate enough time to virtual interactions in technology-enabled learning, they were stressed.

When they did not use their computers at home to create schoolwork digitally and had technical problems and difficulties submitting their work for technology-enabled learning. As a result, educators should support students' ability to cognitively engage in technology-enabled learning by providing them with various tools and activities to choose from, assisting them with computer literacy, assigning adequate resources for activities that include learning and opportunity, and preparing technical support (Bedenlier et al., 2020; Chiu, 2021).

Engagement is reflected in the quality of interactions with teachers, classmates, curriculum, and learning activities (Wang & Eccles, 2013). Emotionally engaged students are more likely to find the content exciting and engaging. Students responded to blogs or forum messages in a polite manner were able to create their videos to work toward a common group goal as well as build interpersonal relations in emotionally engaging online environments, and teachers encouraged peer support assistance and presented emotional audio-visual concepts for teaching.

The social constructivist concept is premised on the basis that people actively develop skills and information and that comprehending one's environment is a cognitive process. In other words, in need for knowledge to be meaningful to the learner, it must be cognitively engaged (Piaget, 1979). (Wang, Fredricks, Ye, Hofkens, and Linn 2016) explored the validity of a social dimension. The researcher discovered statistical evidence for the idea that behavioural, emotional, cognitive, and social engagement is a theoretically related but separate and distinct concepts. Researchers defined the social dimension as "I build on other people's ideas," "I try to understand other people's ideas in science/maths classes," "I try to work with others who can help me in science/maths," "I try to help others who are struggling in science/maths" I do not care about other people's ideas," "I do not like working with classmates," and so on. Overall, online learning environments require more self-determination as they are less monitored. It requires technical skills and digital literacy. Furthermore, behavioural engagement in the environment is better understood, cognitive and emotional engagement is less well understood (Bedenlier et al., 2020). Students, who appear to be cognitively engaged, put more effort into technology-enabled learning, strive to exceed expectations and accept challenges. Core understanding rather than material knowledge is more effective for deeper learning. Students are more likely to use technology to learn at their own pace (Christenson et al., 2012).

They do not just follow procedures; they participate in meaningful, in-depth interactions on content. On the other side, students will be cognitively engaged in self-paced learning if they participate in technology-enabled learning (Ryan & Deci, 2017). This study examines how technology-enabled learning can be integrated into the curriculum to improve student engagement and performance. The emphasis is on how technology-enabled learning, a technological application can be used in the classroom to achieve learning objectives.

9.3 Methodology:

This is a primary data-based study using stratified random sampling. One hundred three students participated in this research. 42.72% from a government school and 57.28% from a private school, including 49.51% male and 50.49% female, from Lucknow, India. Respondents were from grades 11 and 12. Classes 11 and 12 were chosen as the understanding level of this age group is more as compared to the middle school. Learning Engagement Technology by Nina Bergdahl has been modified and used as a questionnaire for the paper, *representing engagement with four aspects* behavioral, cognitive, emotional, and social engagement while learning with technology. Students had to choose on a scale of 1 to5 (strongly agree to strongly disagree). For each statement, they had to choose the option that best applied to them.

9.3.1 Data Analysis:

The instrument comprises 33 items categorized into behavioral, cognitive, emotional, and social engagement while learning with technology. Since different measurements or aspects of engagement are considered in this ascertaining instrument, it offers a decent and comprehensive sign of overall learning engagement. The quantitative data collected were inserted in Statistical Package for the Social Science (SPSS), version 17.0, and were then encoded and analyzed by descriptive statistics (mean, t-Test: Two-Sample Assuming Equal Variances).

Table 9.1: Descriptive Statistics of learning engagement with technology-enabled learning

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
EB1	103	4	5	4.53	.501
DB1_R	103	1	5	2.75	.977
EB2	103	4	5	4.34	.476
DB2_R	103	1	5	2.72	1.158
EB3	103	2	5	4.26	.504
DB3_R	103	1	4	1.65	.589
EB4	103	4	5	4.39	.490
EC1	103	2	5	4.25	.573
DC1_R	103	1	5	2.50	1.195
EC2	103	2	5	4.27	.645
DC2_R	103	1	4	2.24	.891
EC3_R	103	1	5	3.35	.947
DC3_R	103	1	4	2.26	.828
EC4	103	2	5	4.23	.597
DE1	103	2	5	4.09	.507
EC5	103	3	5	4.36	.502
EE1	103	1	5	3.63	.980
EE4	103	2	5	4.29	.620
DE2_R	103	1	4	2.38	.876
EC6	103	1	5	3.43	1.099
EE3	103	2	5	4.13	.436
DE3_R	103	1	5	2.66	1.025
EE2	103	2	5	4.18	.538
DE4_R	103	1	5	3.19	.875
DE5_R	103	1	4	1.90	.515
DS1	103	2	5	4.09	.596
ES1	103	2	5	4.10	.495
DS2_R	103	1	5	3.07	1.223
ES2	103	2	5	4.22	.541
DS5_R	103	1	4	2.48	.906
DS3_R	103	1	5	3.28	1.004
ES3	103	2	5	4.10	.409
DS4_R	103	1	4	1.89	.541
Grades after technology	103	6.40	10.00	8.1019	.86512
Valid N (listwise)	103				

The above table shows that the **Mean** of learning engagement's behavioural, cognitive, emotional, and social aspects ranges between 2.65 to 4.53, and **S.D** ranges between 0.409 to 1.099. The **Mean** of learning disengagement's behavioural, cognitive, emotional and social aspects ranges between 2.72 to 4.35, and **S.D** ranges between 0.507 to 1.195.

9.4 Discussion:

In Technology-enabled learning, students get the opportunity to communicate more, as compared to traditional classroom learning. When engaged in Technology-enabled learning, such as responding and communicating to questions or assessing and submitting assignments, the students felt they needed to increase their digital competency (Bedenlier et al., 2020). This motivation to achieve desired results and feelings of competence emphasizes the necessity for Self-paced learning ability and may engage teachers and students cognitively (Robertson et al., 2020; Ryan & Deci, 2017). Technology-enabled learning and self- efficacy can also increase cognitive engagement, leading to the development of enhanced technology abilities (Bedenlier et al., 2020; Christenson et al., 2012). Because of the immediacy and complexity of the global pandemic, schools and teachers had to act quickly to undertake alternatives. Students immediately became more independent as a result of the sudden shift to virtual schooling, allowing them to practice the technological skill set they desired.

The human experience is essentially emotional as well as social, and it should be kept in mind that separating emotional involvement from other types of engagement, such as social, cognitive, or behavioural, is unrealistic and constraining. The emotional aspects of As Kahu (2013) points out, student engagement is less extensively studied, and our findings and research approach raise questions about them. In our study, classifying 'positive engagement' against 'negative disengagement' may not be the most effective way of interpreting the experience may have limited opportunities for more profound research. For instance, most students find social engagement for learning to be complicated or stressful at times while still engaging and interesting. In the social environment, 'engagement.' is constructed in a variety of ways.

Student experience and perceptions of 'engagement.' in the social environment are strongly associated, and both are increasingly used as performance measures for an educational institution (Kahu, 2013). However, research that encourages schools to focus on class, students' current expectations, and desire for a sense Safety emerges from a concept of engagement that is not clearly differentiated from student satisfaction. It promotes educational shifts away from providing students with opportunities for challenge and contingency, as well as away from helping them to change their perceptions of the spectrum of emotional experiences that learning may provide. The students' initial concern was that educational approaches primarily focused on behavioural engagement rather than emotionally engaging them in virtual learning.

Educators adapted and evolved classroom teaching approaches from an emphasis on assignments evaluation and pre- determined teaching schedules and curriculums to online learning that caters to personalized learning requirements and considers student concerns and challenges. Because it was perceived as a less warm and expressive atmosphere, the virtual learning the context was seen as a barrier to students building a stronger sense of belonging. In terms of emotional engagement, online learning was inadequate for engagement in face-to-face classroom settings (Bedenlier et al., 2020). Students did not include social conversations/online communication as opportunities to form relationships, often differentiating them with possibilities to learn more subject knowledge, such as through peer learning; developing a the more incredible feeling of belonging was often seen as an integral part.

Students were encouraged to decide their learning and given the opportunity to try activities on their own through virtual learning, which is consistent with the situational factors contributing to the development of self-paced learning. The demand for autonomy in self-paced learning is reflected in this individual acceptance or perception of choice (Robertson et al., 2020; Ryan & Deci, 2017). Virtual environments are less controlled than face-to-face classes, giving students more authority over their learning and encouraging them to engage cognitively in identifying their learning resources (Ruzek et al., 2016; Ryan& Deci, 2017). Students can also use customized learning strategies to study in a way that suits them in suitable environments. Furthermore, when professors are absent, learners receive less direct teaching from them and are pushed to encourage themselves to make their own learning choices (Ruzek et al., 2016). Learning management systems are already actively engaging with non-educational innovations and advancements due to the 'era of virtual world' an endless war for internet searches, views on youtube, likes, shares, etc. (Davenport & Beck, 2001). Predictably, schools and teachers struggle to keep students engaged since social media platforms and others engage extensively in user experiences intended to draw interest. Students have agreed on a struggle between their academic commitments and other aspects of their lives, such as their usage of non-educational technology. On the other hand, students did not expect complex or engaging tools and applications in the LMS; instead, they wanted to be recognized, acknowledged, understood, remembered, and engaged.

9.5 Conclusion:

As Kahu and Nelson's (2018) paradigm highlights, discussions of student engagement are strongly intertwined with the environment. According to Zepke, due to many similarities between the conceptions, engagement research, has flourished in the modern environment, and so fundamentalism has been vital to achieving the concept of student engagement as significant in the meaningful education discussion (Zepke, 2015). Modernity has also influenced how valuable knowledge is perceived. Because knowledge is a type of capital, concepts of engagement are informed by the idea that learning should be primarily practical and economically beneficial, giving the learner/consumer a place in the global education system (Zepke, 2015). To effectively complete the curriculum and equip students for practical work in schools, the data strongly supported the common connection between engagement in learning and practical learning activities. Questions concerning engagement appeared to be frequently confused as concerns about what learning should be like in the framework of a formal school pursued in addition to developing learning engagement. Students' learning is significantly enhanced by social engagement. Researcher revealed that students developed learning from others, which improved learning and retention by stimulating prior knowledge, communicating effectively, and strengthening innovative thoughts and fresh concepts. Social engagement created a positive learning environment. Social engagement enabled our learners to explore topics from diverse perspectives, which improved essential critical thinking abilities. Interacting with classmates, students believed, was very extremely helpful to their learning in class. This theory has strong support in the literature (Bromley, 2008; Wilkinson et al., 2010).

9.5.1 Limitation:

This study did not look at how different pedagogies address the psychological factors engage students in learning. The challenges presented by virtual and classroom learning environments' various pedagogical objectives and communication interfaces.

They are pedagogical lack of experience with cognitive and emotional engagement and student digital ineptness. Conceptual frameworks of interpreting students as individuals are also encouraged by the theory of learning and the new educational culture in which they are studying.

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10. Organisational Citizenship Behaviour of Employees towards Organisation and Individuals: An Empirical Study of Indian Service Organisations across Industries

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Abstract:

Organisational Citizenship Behavior (OCB) is now emerging as an important aspect of human behavior at work, which has a significant impact on team work and success of an organisation, which is so essential in the present-day dynamic business environment. The present study was a modest attempt to expand the knowledge base relating to the vital question of whether and how managers in service organisations go voluntarily beyond their prescribed official duties to assist and cooperate with their colleagues and, ultimately, contribute in achieving the Organisational objectives, including the primary objective of maximizing shareholders' wealth in the long run. It was designed to investigate the 'perceptions of managers', working in Indian Service Organisations, regarding different dimensions of Organisational Citizenship Behavior (OCB). The present study was a descriptive research; and was intended to identify and obtain credible information on the characteristics of service sector employees' perceptions. The research sample formed by 306 employees related with concerned Indian Service Organisations, which were established in the form of public companies. The data was provided by a questionnaire which was structured according to the research questions.

Various statistical techniques have been used on SPSS and MS Excel to test and analyze the hypothesized model. The findings of the present study make credible addition to the body of knowledge existing on the topic of Organisational Citizenship Behaviour and its two significant aspects viz., OCBI and OCBO. It was found that the managers of Indian service organisations have been voluntarily assuming OCBI and OCBO during 21^{st}century; and promotion of this citizenship behaviour tendency by senior business leaders may surely promote the achievement of objectives of such organisations in the long run.

10.1 Introduction:

Organisational Citizenship Behavior (OCB) is behaviour that works beyond assigned official duties and contributes to the well-being of organisations. OCB is a concept that defines an individual's voluntary commitment within an organisation that is not related with his or her assigned official tasks. OCB may be linked to overall organisational efficiency, as employees' behaviours at workplace have important consequences in the organisation.

Organisational Citizenship Behaviour is one of the behavioral techniques under study for improvisation in many organisations worldwide. OCB is the way in which there may be direct or indirect involvement of senior executives with the middle-level managers and other employees in their organisations. OCB may lead to an open communication and a clear understanding in every employee of his/her role in the organisation.

A particular group of companies or businesses is termed as an 'industry' whereas a very huge segment of an economy is termed as a 'sector', but both these terms are usually used interchangeably to point out the group of entities or companies which operate in similar segments of an economy, or they have similar businesses. In this paper, while analyzing primary data collected from 306 middle-level managers of corporate service organisations, a distinction is made between the terms 'industry' and 'sector'. To put any confusion to rest at this stage itself, it is considered necessary to discuss the meaning and import of these two terms to appreciate the tone and tenor of data analysis and interpretation that follows.

The term "Industry" is defined in Section 2(j) of the Industrial Disputes Act, 1947 as: "any business, trade, undertaking, manufacture, or calling of employers and includes any calling, service, employment, handicraft or industrial occupation or avocation of workmen". An industry exists only when there is the relationship between employers and employees. This definition was elaborated upon by Hon'ble Supreme Court in its landmark judgment titled Bangalore Water Supply and Sewerage Board v. R. Rajappa & Ors. [A.I.R. 1978 SC 548], whereby the term industry was given wide scope. It was held by Hon'ble apex court that any activity would be industry if it fulfills the 'triple test' viz., (a) it is a systematic and organized activity; (b) it is carried on with the cooperation of employers and employees; and (c) it is for the production and distribution of goods or services.

10.2 Review of Literature:

Research studies on Organisational Citizen Behaviour in India has been late, inadequate, and influenced by the particular specialization of the researchers. Some of the available research are briefly discussed here under. Guha & Chimote (2012) attempted to identify the ways in which organisations could develop the 'commitment' of the employees; and, in that endeavour, explored the relationship between organisational commitment, OCB, and work-life balance. The study identified that conversion of 'job satisfaction' to OCB could be developed in phases; and came to the conclusion that OCB can be generated and practiced only when employees' perception is reciprocated by their organisations.

Sethi (2012) stated that Job Satisfaction is a pleasurable or positive emotional state of mind resulting from the appraisal of one's job experiences. It may be defined as a satisfactory emotion level of an employee. The result of research indicates that job satisfaction is significantly related to organisational citizenship, and also to work-family balance. Nair (2013) explained the relationship between the Quality of Work Life (QWL) and its effect on OCB. The purpose of the descriptive study was to identify the QWL as a predictor of OCB. The research, based on a survey among college teachers in and around Thrissur District of Kerala, aimed to offer insight and add to the existing body of literature relating to the effects of QWL on OCB. The findings indicate that there is a significant relationship between the QWL and OCB based on altruism and conscientiousness; and 21 that the perceived level of QWL among college teachers differ based on their gender. It has been noticed that female teachers feel a better QWL compared to their male counterparts.

Dash & Pradhan (2014) agree that OCB promotes the efficient and effective functioning of the organisations. The study examined the relevance of OCB; and the determinants and consequences of OCB in Indian 'manufacturing' organisations. The conclusion provides a comprehensive conceptual model of OCB admitting that OCB has got many positive influences on the organisation like increasing job satisfaction, employee engagement, low absenteeism, increasing retention, etc. Gondlekar (2014) investigated the relationship between personality factors, leadership, and OCB, predict changes in OCB by personality and leadership; and analyzed the influence of demographic variables (organisational tenure, educational qualifications, age, designation, gender, and job status) on OCB, personality, leadership, and their dimensions. The sample, chosen randomly, comprised 203 employees from three units of Sesa Goa Ltd., a leading mining company in Goa (India). An incidental analysis using One-Way ANOVA and t-test revealed the significant influence of 'Organisational tenure' and 'educational level' on OCB. No significant difference was noticed on leadership and any of its dimensions. However, age, designation, gender, and job status did not show any noteworthy influence on OCB.

Midha Mathur & Jain (2014) describe that OCB is mainly about actions in which employees transgress their prescribed role requirements; and it is a major factor that affects organisational effectiveness and employee performance. Based on a sample size of 125, the study explored the determinants of OCB for professional college teachers in Delhi-NCR and suggested a concrete system to develop continual OCB. This study analyzed whether social expectations, desire for personal growth, value system, professional attitude, and teaching methodology & skills had an effect on OCBs. Tambe & Shanker (2014) made efforts to understand the meaning, nature and scope of OCB and to review its various dimensions. This study touches upon the five dimensions of OCB given by Organ (1988); and makes a fleeting reference to other dimensions also which were discussed by various scholars from time to time, including the 'Extended Dimensions' stated by Farh, Zhong and Organ (2004).

Qureshi (2015) stated that concerns arise from the fact that discretion available to police officers leads to its abuse. He compared OCB research findings from US-based studies in business organisations and also some studies from the criminal justice system, especially the police connections. This study utilized a survey of 829 police officers from two districts (Rohtak and Sonepat) conducted in 2013 in the Indian state of Haryana. The findings indicate that organisational justice, job satisfaction, task variables, and organisational commitment are strongly related to OCB. The linkage of positive psychology with organisational behavior in the police is used to drive home the point that there is much to be gained by focusing on positive workplace factors, though reducing the stressors is also important. Bhatla (2016), basing her study on previous research literature, points out that job satisfaction and organisational commitment have a positive impact on OCB; and administrators' transformational style also impacts the citizenship behavior of employees of an organisation.

Deepa (2016) examined the antecedents of employee retention by applying Structural Equation Modeling. Health care experts are crucial in the provision of health services, especially nurses who happen to be extremely valuable to the organisations because they are the ones who deliver first-hand services to patients; and it is essential to make sure that skillful nurses are retained; and voluntary turnover among them is managed properly.

189 sets of questionnaire were randomly circulated to the health-care professionals in hospitals. The questionnaire comprised 100 items with fixed alternative construct questions. The respondents were asked to rate the questions in five-point likert-scaling which permits respondents to have an understanding of the questions. The research identified that 59% of employee retention was the result of job involvement, OCBs, people management practices, Organisation loyalty, and employee empowerment. This study presents adequate evidence from literature about the predictors of employee retention and also offers an empirical basis to ensure extended tenure in hospitals.

Prathiba & Balakrishnan (2017) stated that today's work-place is dynamic and complex as we have three different generations at work simultaneously. The current workforce consists of baby-boomers (1945-1964), Gen X (1965- 1980) and Gen Y born between 1980 and 1994. The Gen Y is tech-savvy and motivated; and technology is part of their everyday life. The objective of the work was at studying the factors that motivate Gen Y employees to remain committed to their organisations and thereby exhibit organisational commitment behaviour. The study concluded that employee engagement and organisational commitment of the employees have a positive impact on OCB.

Sethi (2019) focused on two dimensions of OCB viz., Altruism and Courtesy. The former implies helping others selflessly at the work-place, and Courtesy is mainly concerned with preventing interpersonal conflicts. Sethi's study is focused on studying the 'salary' as a determinant factor for altruism and Courtesy among the employees of telecom sector in India. Data provided by 650 employees working in various telecom companies of Punjab is considered for evaluation. The study shows that salary is positively related to Altruism and Courtesy; whereas Altruism and Courtesy have significant relationship with one another, as Altruism affects the level of Courtesy. The study concluded that higher the salary, higher is the OCB level among employees. Gupta & Gupta (2019a) stated that Organisational Citizenship Behaviour has been an important construct in the areas of behavioral sciences, psychology and business management. Thus, OCB has captured a volume of attention during last few decades; and it facilitates change in the environment of a formal organisation because activities related to OCB provide a relaxed environment and ensures better cooperation of employees. It is expected that with an organisational environment of OCB, the tension among employees is reduced and, therefore, the productivity and effectiveness of an organisation expected to increase. On the basis of detailed review of literature, the inevitable conclusion arrived at is that business organisations cannot grow unless their employees willingly engage in OCBs. Gupta & Gupta (2019b) described that Organisational Citizenship Behaviour is behavior that works beyond assigned duties and contributes to the well-being of organisations. OCB is a concept that defines an individual's voluntary commitment within an organisation that is not related to his or her assigned job. Primary data for this descriptive study was collected from 306 middle-level managers of Large Corporate Service Organisations of various industries i.e., Health/Hospital, Insurance, Banking, Financial Services, Hotel & Hospitality, Education, Telecommunication, IT & Software Development, etc. The study revealed that a fairly good extent of OCB towards Organisation (OCB-O) was shown by the employees of service organisations in the National Capital Region of Delhi, India.

Employees' perceptions regarding OCBO & OCBI across Indian industries of the Indian economy remain unexplored. It is, therefore, necessary to bridge the current research gap.OCB is a concept that describes an individual's voluntary commitment within an organisation that may not be related to his or her officially assigned tasks. Such behaviour at the workplace is predictor of "good citizen" and has important consequences for an organisation, mostly positive [Bateman & Organ (1983), Organ (1990), Podsakoff & MacKenzie (1997), Walz & Niehoff (2000), etc.]. But, many researchers argue that such behaviour may sometimes be counter-productive; and may be referred to as counter- 170 productive work behaviour (CWB). Dalal (2005) found that organisational intervention designed to facilitate OCB may not simultaneously deter CWB. Spector, Bauer & Fox (2010) concluded their study by stating that CWB and OCB are 'likely unrelated' and 'not necessarily oppositely related' to other variables. In spite of some differing opinions and conclusions about the relationship between OCB and CWB and their likely impact on organisational performance and effectiveness, the overwhelming view in the literature is that OCBs have a positive impact on organisations. The present analysis exhibits concurrence with this view. The objectives of present research relate to investigation of OCBO and OCBI levels across the Indian economy. Williams & Anderson (1991) classified and distinguished employees' behaviours directed towards individuals (OCBI) and behaviours directed towards the organisation (OCBO); and the present study has proceeded by provisionally accepting and maintaining that distinction. Keeping in view the macro-level significance of the Objective of the present study, data related thereto is being analyzed and interpreted separately in this chapter.

10.3 Methodology:

10.3.1 Objectives:

The present study intends, inter-alia to:

a. To investigate employees' perceptions regarding both components of OCB (OCBO & OCBI) across Indian industries. For the purposes of this objective, respondents were asked about their perceptions relating to both the aspects of Organisational Citizenship Behaviour viz., OCBO and OCBI. Comparison has been made about how employees perceived OCB in various Indian industries. This objective is further divided into following sub-objectives:

- To analyze the perception of employees, belonging to different industries, regarding Organisational Citizenship Behaviour (Add-in Proficiency & Industries).
- To analyze the perception of employees, belonging to different industries, regarding Organisational Citizenship Behaviour (Civic Virtue & Industries).
- To analyze the perception of employees, belonging to different industries, regarding Organisational Citizenship Behaviour (Courtesy & Industries).
- To analyze the perception of employees, belonging to different industries, regarding Organisational Citizenship Behaviour (Altruism & Industries).
- To analyze the perception of employees, belonging to different industries, regarding Organisational Citizenship Behaviour (Morale Boosting & Industries).

Sample:

It was proposed to collect data from employees of public and private sectors service organisations relating to Health/Hospital, Insurance, Banking/ Financial Services, Hotel & Hospitality, Education, Telecommunication, IT & Software Development; and incidental response, if any, by employees of any other service organisation was to be considered under the category of 'Miscellaneous Industries'. For the primary data, the researcher used a structured questionnaire to conduct survey of managers of the public and private sector organisations relating to Healthcare / Hospital, Insurance, Banking / Financial Services, Hotel & Hospitality, Education, Telecommunication, IT & Software Development.

National Capital Region of Delhi (referred to as "Delhi NCR" or "NCR Delhi") is the population area for this study. This area includes Indian Capital and cities of neighboring states of Haryana and U.P. The unit of sample for this study was employees of Indian Service Organisations, which were established in the form of public companies under the provisions of the Indian Companies Act or foreign companies having a place of business in India.

In consultation with experts in related field, it was decided to restrict the sample of employees to 320 persons. Convenience- cum-Purposive sampling technique (non-probability sampling method) was adopted for selecting respondents. This method has been used in collecting primary data from respondents working in various service organisations operating in the population area.

10.3.2 Hypotheses:

Hypotheses have been formulated for achieving the above-mentioned objectives and, in turn, to have a proper insight into employees' perceptions of various dimensions of Organizational Citizenship Behavior and their relationships with demographic variables, and also to compare and analyze the extent of OCBs among the employees of service organizations. A total of five Null Hypotheses has been formulated for achieving the objectives of this study. Corresponding Alternative Hypotheses are also formulated. The same is mentioned below.

$H_0$1: Perception of employees regarding Add-in Proficiency does not differ significantly on the basis of industry.

H_A1: Perception of employees regarding Add-in-Proficiency differs significantly on the basis of industry.

H_02: Perception of employees regarding Civic-Virtue does not differ significantly on the basis of industry.

H_A2: Perception of employees regarding Civic-Virtue differs significantly on the basis of industry.

H_03: Perception of employees regarding Courtesy does not differ significantly on the basis of industry.

H_A3: Perception of employees regarding Courtesy differs significantly on the basis of industry.

H_04: Perception of employees regarding Altruism does not differ significantly on the basis of Industry.

H_A4: Perception of employees regarding Altruism differs significantly on the basis of industry.

H_05: Perception of employees regarding Morale Boosting does not differ significantly on the basis of industry.

H_A5: Perception of employees regarding Morale Boosting differs significantly on the basis of industry.

10.3.3 Tools for Data Collection:

This study used questionnaire method for collecting primary data. Since OCB was first defined by Organ (1988), it has been measured via. Behavioral Check-Lists.

The nature of OCB, though understood to be ‘extra-role’ or discretionary, is invariably intertwined with officially required work-behavior. In the present study, the researcher used standard questionnaire of Fox & Spector 2009.

10.3.4 Tools for Analysis:

The following statistical tools were applied for analysis and interpretation:

- Average, Standard Deviation, Mean score to analyze the data of the respondents.
- T-test at 5% level of significance for testing the Mean differences and statistical significance of data.
- The analysis work has been done with the help of SPSS and MS Excel application software.

10.4 Findings:

10.4.1 Steps of Data Analysis:

A. Add-in Proficiency & Industry: It is important to analyze the composite responses of respondents for “Add-in Proficiency” with regard to different industries in which they are working. For the purpose of the study, it is also important to know whether the perception of employees working in different industries is similar about OCB. To check this, ANOVA is applied.

Exhibit 10.1: Add-in Proficiency and Industries

Industries	Mean	Std. Deviation
Health/Hospital	3.33	.831
Insurance, Banking & Financial Services	3.12	.940
Hotel & Hospitality	3.25	.949
Education	3.13	.765
Telecommunication, IT & Software Development	3.32	.803
Miscellaneous Industries	3.37	1.108

Exhibit 10.1 shows the mean values of the data provided by respondents pertaining to various industries and also corresponding standard deviations. To ascertain whether there are statistically significant differences between these mean values, it is proposed to analyze the groups’ mean data among different industries using one-way ANOVA. For this, null hypothesis $H_0 1$ is formulated and tested using ANOVA. Hypothesis HA1 is formulated as an alternative. $H_0 1$: Perception of employees regarding Add-in Proficiency does not differ significantly on the basis of industry.

$H_A 1$: Perception of employees regarding Add-in-Proficiency differs significantly on the basis of industry. The null hypothesis $H_0 16$ checks whether the perception of the respondents towards Add-in Proficiency differs significantly or not on the basis of Industries. The result of the analysis is discussed below:

$H_A 1$: Perception of employees regarding Add-in-Proficiency differs significantly on the basis of industry. The null hypothesis H01 checks whether the perception of the respondents towards Add-in Proficiency differs significantly or not on the basis of Industries. The result of the analysis is discussed below:

Exhibit 10.2: ANOVA (Add-in Proficiency & Industries)

Add-in-Proficiency	Sum of Squares	df	Mean Square	F	**P-value**
Between Groups	3.126	5	.625	.815	**.540**
Within Groups	230.274	300	.768		
Total	233.400	305			

Exhibit 10.2 shows that mean values of different industries (between and within groups) are different, as perceived by the respondents. But the difference is not significant, as P value is'.540' which is not significant at 5% level of significance. So, we fail to reject H01 and cannot accept HA1, the alternative hypothesis. Therefore, it is inferred that the perceptions of employees in different industries regarding Add-in Proficiency do not differ significantly.

B. Civic-Virtue & Industry:

The next variable is "Civic-Virtue" in different industries. It is important to analyze the composite responses of respondents for Civic-Virtue with regard to different industries. For the purposes of this study, it is also 175 important to know whether the perception of employees working in different industries is similar towards OCB. To check this, ANOVA is applied and data tested.

Exhibit 10.3: Civic-Virtue & Industries

Industries	Mean	Std. Deviation
Health/Hospital	3.22	.816
Insurance, Banking & Financial Services	3.00	.808
Hotel & Hospitality	2.94	.706
Education	2.85	.742
Telecommunication, IT & Software Development	3.00	.801
Miscellaneous Industries	3.11	.887

Exhibit 10.3 shows the mean values of data provided by respondents from different industries and also corresponding standard deviations. To ascertain whether there are statistically significant differences in the mean values, it is proposed to analyze the data to test for the differences in mean scores among different industries using one-way ANOVA. For this null hypothesis H_02 is formulated and tested using ANOVA. H_A2 is also formulated as alternative hypothesis.

H_02: Perception of employees regarding Civic-Virtue does not differ significantly on the basis of industry.

H_A2: Perception of employees regarding Civic-Virtue differs significantly on the basis of industry.

The null hypothesis H02 checks whether the perception of the respondents towards Civic-Virtue differs significantly or not on the basis of different industries. The results of the analysis are discussed below:

Exhibit 10.4: ANOVA (Civic-Virtue & Industries)

Civic-Virtue	Sum of Squares	df	Mean Square	F	P value
Between Groups	3.547	5	.709	1.136	.341
Within Groups	187.313	300	.624		
Total	190.859	305			

Exhibit 10.4 shows that the mean values of different industries (between and within groups) have different mean values as perceived by the respondents. But the difference is not significant, as P value is '.341' which is not significant at 5% level of significance. So, we fail to reject H_02 and cannot accept H_A2, the alternative hypothesis. Therefore, it is inferred that the perceptions of employees in different industries regarding Civic Virtue do not differ significantly.

C. Courtesy & Industry:

The next variable is "Courtesy" in various industries. It is important to analyze the composite responses of respondents for courtesy with reference to their industries. ANOVA is used to know whether the perception of employees working in different industries is similar towards OCB.

Exhibit 10.5: Courtesy & Industries

Industries	Mean	Std. Deviation
Health/Hospital	2.85	.703
Insurance, Banking & Financial Services	2.86	.863
Hotel & Hospitality	2.84	.835
Education	2.66	.671
Telecommunication, IT & Software Development	2.89	.765
Miscellaneous Industries	3.26	.794

Exhibit 10.5 shows the mean values of data provided by respondents in various industries and their corresponding standard deviations. To ascertain whether there are statistically significant differences in the mean values, it is proposed to analyze the data to test for the differences in mean scores among different industries using one-way ANOVA. For this null hypothesis $H_0$3 is formulated and tested using ANOVA. Hypothesis H_A18 is also formulated as an alternative. $H_0$3: Perception of employees regarding Courtesy does not differ significantly on the basis of industry.

H_A3: Perception of employees regarding Courtesy differs significantly on the basis of industry. The null hypothesis $H_0$3 checks whether the perception of the respondents towards courtesy differs significantly or not on the basis of different industries. The results of the analysis are discussed below:

Exhibit 10.6: ANOVA (Courtesy & Industries)

Courtesy	Sum of Squares	df	Mean Square	F	P-value
Between Groups	6.665	5	1.333	2.224	**.052**
Within Groups	179.835	300	.599		
Total	186.499	305			

Exhibit 10.6 shows that the mean values of various industries (between and within Groups) are different as perceived by the respondents. But the difference is not significant, as P value is‘.052’ which is not significant at 5% level of significance. So, we fail to reject H03and cannot accept H_A3, the alternative hypothesis. Therefore, it is inferred that the perceptions of employees in different industries regarding courtesy do not differ significantly.

D. Altruism & Industry:

The next variable is “Altruism” in different industries or large corporate service organisations. It is important to analyze the composite responses of respondents for Altruism with regard to different industries. For the purpose of the study, it is also important to know whether the perception of employees working in different industries is similar towards OCB. To check this, ANOVA is applied and data tested.

Exhibit 10.7: Altruism & Industries

Industries	Mean	Std. Deviation
Health/Hospital	3.53	.708
Insurance, Banking & Financial Services	3.33	.857
Hotel & Hospitality	3.34	.943
Education	3.21	.742
Telecommunication, IT & Software Development	3.35	.728
Miscellaneous Industries	3.65	.887

Exhibit 10.7 shows the mean values of data provided by respondents in different industries and their corresponding standard deviations. To ascertain whether there are statistically significant differences in the mean values, it is proposed to analyze the data to test for the differences in mean scores among different industries using one-way ANOVA. For this, null hypothesis H_04 is formulated and tested using ANOVA. Hypothesis HA4 is also formulated as an alternative. H_04: Perception of employees regarding Altruism does not differ significantly based on Industry.

H_A4: Perception of employees regarding Altruism differs significantly based on industry. The null hypothesis H_04 checks whether the perception of the respondents towards altruism differs significantly or not based on industries. The results of the analysis are discussed below:

Exhibit 10.8: ANOVA (Altruism & Industries)

Altruism	Sum of Squares	df	Mean Square	F	P Value
Between Groups	4.575	5	.915	1.435	**.211**
Within Groups	191.279	300	.638		
Total	195.854	305			

Exhibit 10.8 shows that mean values of various industries (between and within groups) are different as perceived by the respondents. But the difference is not significant, as P value is'.211' which is not significant at 5% level of significance. So, we fail to reject $H_0$4 and cannot accept H_A4, the alternative hypothesis. Therefore, it is inferred that the perceptions of employees working in various industries regarding altruism do not differ significantly.

E. Morale Boosting & Industry:

The next variable is "Morale Boosting" in various industries or large corporate service organisations. It is important to analyze the composite responses of respondents for morale boosting with regard to different industries. For the purpose of the study, it is also important to know whether the perception of employees working in various industries is similar towards OCB. To check this, ANOVA is applied and data tested.

Exhibit 10.9: Industry-wise Morale Boosting

Industries	Mean	Std. Deviation
Health/Hospital	3.48	.859
Insurance, Banking & Financial Services	3.24	.931
Hotel & Hospitality	3.17	.850
Education	2.98	.854
Telecommunication, IT & Software Development	3.07	.905
Miscellaneous Industries	3.27	1.028

Exhibit 10.9 shows the mean values of data provided by respondents working in various industries along with their corresponding standard deviations. To ascertain whether there are statistically significant differences in the mean values, it is proposed to analyze the data to test for the differences in mean scores among different industries using one-way ANOVA. For this null hypothesis H05 is formulated and tested using ANOVA. Hypothesis H_A5 is also formulated as an alternative.

H_05: Perception of employees regarding Morale Boosting does not differ significantly on the basis of industry.

H_A5: Perception of employees regarding Morale Boosting differs significantly on the basis of industry.

The null hypothesis H05 checks whether the perception of the respondents towards morale boosting differs significantly or not on the basis of industries. The results of the analysis are discussed below:

Exhibit 10.10: ANOVA (Morale Boosting & Industries)

Morale Boosting	Sum of Squares	df	Mean Square	F	P-value
Between Groups	6.914	5	1.383	1.703	.134
Within Groups	243.585	300	.812		
Total	250.499	305			

Exhibit 10.10 shows that mean values of various industries (between and within groups) are different as perceived by the respondents. But the difference is not significant, as P value is'134' which is not significant at 5% level of significance. So, we fail to reject H05 and cannot accept HA5, the alternative hypothesis. Therefore, it is inferred that the perceptions of employees in different industries regarding morale boosting do not differ significantly. The analysis highlights that in the corporate service organisations, the availability of OCB is at moderate to higher level. Present study partially supports the studies of Basirudin et.al. (2016), Ngugi (2017) and Ali & Ullah (2018).

The analysis reveals that the perceptions of employees, in null hypotheses H01 to H05 formulated to investigate various dimensions of OCB across industries, do not differ significantly. Data related to dimensions like Add-in Proficiency, Civic-Virtue, Courtesy, Altruism and Morale Boosting have been examined; and it is inferred with a reasonable degree of certainty that OCBs of middle-level managers across various industries do not differ significantly. It implies that employees in large corporate service organisations voluntarily contribute to the said dimensions of OCB; and their citizenship behaviour is beneficial for individuals and their organisations.

10.5 Conclusions:

10.5.1 Conclusion:

Using the primary data collected from 306 middle-level managers of corporate service organisations established or operating from the National Capital Region of Delhi, analysis of employees' perceptions regarding OCB towards Organisation (OCBO) is bifurcated into two sub-factors viz., Add-in Proficiency and Civic-Virtue. Add-in Proficiency is related to employees' efforts which are expected to 'directly' improve the work performance of organisations. Civic-Virtue is related to employees' efforts which contribute 'indirectly' to the effectiveness of organisations. It has been found that employees of these organisations perform many OCBO activities very frequently for development and effective performance of their 194 organisations. Employees also make efforts to increase their efficiency for smooth functioning of their organisations; and their actions ultimately add to the goodwill and profitability of such organisations. Such actions credibly contribute to the achievement of organisational objectives in the long run. For analyzing OCB towards Individuals (OCBI), further three sub-factors are created viz., Courtesy, Altruism and Morale Boosting. Courtesy is related to personal well-being of co-workers. Analysis reveals that employees volunteer themselves to cooperate with their co-workers in their personal issues also. Altruism relates with co-workers for improving work performance. The indications are that middle-level managers normally give suggestions, offer advice to improve the work and even give their time for orientation of new employees. Morale Boosting relates with boosting the morale of co- workers; and often employees voluntarily inform their managers for a co-worker's excellent performance. Such actions help in creating congenial work environment in an organisation. In this study, the analysis focused on the perceptions of middle-level managers regarding Organisational Citizenship Behaviour and its two components viz., OCBO and OCBI in organisations rendering various services to the society. Analysis of Organisational Citizenship Behaviour towards Organisation (OCBO) shows average improvement in the work environment in organisations. On the other hand, analysis of OCBI shows that activities are performed by employees quite frequently as per their perceptions. Following broad conclusions are drawn from the present analysis:

- Organisational Citizenship Behaviours have positive impact on both - organisations and individuals working therein. OCB provides various dimensions that help organisations for better performance and effectiveness. Present study partially supports the studies of Organ (1988), Podsakoff et.al. (1990), Dyne, Graham & Dienesch (1994), Podsakoff & MacKenzie (1997), Khan Et.al. (2017), Sethi (2018), but supports the studies of Yao & Mingchuan (2010), Dash & Pradhan (2014). However, the present study does not support the research results of Phetphongphan & Ussahawanitchakit (2015).
- Civic-Virtue is exhibited by the respondents quite frequently. The employees of organisations belonging to various industries, whether in public sector or private sector, predict these behaviours repeatedly in their working life. The analysis of the present study confirms the study of MacKenzie, Podsakoff & Fetter (1991), James, Velayudhan & Gayatridevi (2010). This study does not support the study of Podsakoff, Ahearne & MacKenzie (1997). Present study partially supports the study

of Farah, Zhong & Organ (2004) and Lo & Ramayah (2009); and strongly supports the study of Silva & Ranasinghe (2017).

- OCB also helps individuals in increasing their personal well-being, improving work performance and boosting their morale. It may be inferred that OCB towards Individuals (OCBI) is depicted by the respondents quite frequently. Present study partially supports the study of Podsakoff et.al. (2009).
- Employees are always 'there to hear' when their co-workers have any personal problem. The present study confirmed the results of James, Velayudhan & Gayatridevi (2010) and Silva & Ranasinghe (2017); and partially supports the study of Farah, Zhong & Organ (2004) and Lo & Ramayah (2009).
- Employees are always 'there to share' their experiences and help co-workers to learn new skills. The present study supports the study of MacKenzie, Podsakoff & Fetter (1991) but partially supports the study of Walz & Niehoff (2000), Lo & Ramayah (2009) and Dinka (2018). Analysis of current study does not confirm the findings of Silva & Ranasinghe (2017).
- The overall analysis regarding Organisational Citizenship Behaviour across various Indian industries highlight that the availability of OCB is at moderate to higher level. Present study partially support the study of Basirudin et.al. (2016), Ngugi (2017) and Ali & Ullah (2018).

10.5.2 Limitations of the Study:

The current study has certain limitations. All variables were assumed with self-report measures at one-time point.

But, precautions have been taken by the researcher to develop a systematic study to reduce the bias component to its lowest level. Still, there remain some errors or shortcomings, which may include the following:

- The sample of the study was limited to managers of Indian Service Organisations established or operating in the National Capital Region of Delhi (Delhi NCR) only. The results may somewhat vary if similar studies are conducted in other cities or regions of India.
- The study has been confined to only 'service sector' organisations; and, therefore, the perceptions of employees of manufacturing/ industrial sectors have not been taken into account. A similar study on citizenship behaviours of employees of manufacturing organisations may lead to somewhat different results.
- Convenience-cum-Purposive sampling, used for this study, has its own weaknesses.
- Non-availability of previous studies on OCB of employees in Indian service organisations is felt as a constraint, as no comparison could be made with other similar studies.

It is admitted that no research study may be completely flawless and/or inclusive of all possible aspects; and the interesting topic of the present study needs discussion and further research covering more number of industries and a wider geographical area and, perhaps, using different sampling methods.

10.5.3 Suggestions for Future Research:

In the present day dynamic and competitive business environment, the concept of OCB assumes considerable significance, as employees have to be kept motivated to perform team work and positively help their organisations to achieve the predefined objectives ensuring their sustained growth. Employees' job satisfaction combined with transformational leadership may pave the way to sustain large businesses, and thereby enhance shareholders' wealth in the long run. In view of this, more elaborate studies may be conducted in the future including, therein certain prominent predictors, antecedents, and dimensions of OCB, especially job satisfaction, organisational loyalty and commitment, organizational, and procedural justice and transformational leadership.

A larger sample size for future studies may, perhaps, provide more accurate results. More studies may be concentrated on employees and professionals working in manufacturing and other industrial sectors. Future studies may also include respondents from other Indian States, and then interstate comparisons may also be attempted.

Before winding up, it may be reiterated and reaffirmed that the present study and the suggested future research may be a credible value addition to the existing body of knowledge on the interesting topic of Organisational Citizenship Behaviour (OCB). The same may also strengthen the traditional argument in favour of promoting and nurturing 'informal organisations' for sustained growth of the formal business organisations.

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11. Influence of Social Media on Post Millennials for Opting Their Higher Education Course

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Abstract:

Over the last decade, as the number of internet users has grown, so has the use of social media. More specifically, the use has progressed from personal to formal dimensions. University students utilize social media extensively for both academic and personal objectives. Social media is one of the most direct and effective ways for students to communicate and connect with the appropriate subjects. This research paper aims to analyse the impact of social media websites on the post-millennials of the time, who are most prone to this platform almost every minute of their daily routine. This study highlights the influence of social media on post-millennials' choice of opting for their course at higher education institutions. The present study includes the literature review of research with regard to the influence of social media on post-millennials for opting higher education settings. The findings reveal that students believe social media to have an impact and is an efficient instrument for their activities including academic choosing of higher education courses, and has a beneficial influence on communication and engagement among them. Multiple benefits of social media platforms on post-millennials' decision-making process of higher education courses have been given a light upon. The paper also highlights the various issues being faced by the post-millennials in this entire decision-making cycle of theirs to either opt one higher education course or go for some other alternative available to them.

As a consequence of the literature review, recommendations for future study directions are extended. Future studies should explore the gap to give out various strategies so that the benefit of social media platforms being used as a source for opting for higher education courses is no more left vacant.

Keywords: *Social Media, Post Millennials, Higher Education Institutions, Student Learning, Connection.*

11.1 Introduction:

Social media forms an essential part of every post-millennials' existence in the twenty-first century. Even adults count to 70% of the entire population using social media platforms for interaction and communication purposes nowadays. Social media has gained strength in the education sector, especially after the outbreak of the Covid-19 pandemic. Web 2.0, whose other name is "social web", sparked a lot of interest in both teaching and learning due to its several advantages, including social networking and user-generated content (Brown, S., 2012).

The positive and negative aspects of social media have helped individuals to give light on the usage of social media and thus, influenced the life of individuals, especially post-millennials at large(Cooley,D.,2019).However, the influence of various social media platforms have proved to be of greater essence and have helped the post-millennials to make their wisest decision regarding pursuing of higher education in the institution which would best suit their qualification and knowledge about the course at large. The millenniums, which comprises of individuals born under the range of 1980-1999, has a larger than any previous generation's high school graduation rate (Seppanen S., Gualtieri W., 2012). A well-maintained social media plan has advantages that are more than just student recruitment. Social media use has increased students engagement with classroom instruction. (Wilson & Gore, 2013).

As per various research, it is a responsibility to make students aware of what they will come across once they complete their education from college and approach the working environment. This is where social media has taken charge to assist the post-millennials in opting the best higher education institution for their further studies. Every country's prosperity and development are influenced by the post-millennial generation. This generation's health and well-being require special attention. The post-millennial generation is distinct in that it has an egalitarian perspective, a global and open mindset, and a devotion to the environment, society, and others. Mohr J A Kathleen (2017) defined the post-millennial generation as "people who were born between 1995-2010." Because of their familiarity with social media and technology, they are referred to as digital natives. They are also known as the "snowflake generation" because of their soft and individual qualities. The present study makes a thorough analysis of the influence of social media on post millennials' decision-making process of opting for a particular higher education institution. The comprehensive literature review gives light on the concept of how social media platforms have given their unreciprocated assistance to the post-millennials to choose the higher education institution that will prove the most advantageous for them to continue with their studies. Since it is very truly said that every coin has two sides, similarly, the merits and demerits of social media platforms can be taken out from this research work. The entire paper revolves around the review of existing literature which has helped in evaluating the use of social media websites by post-millennials as well as the learning consequences of social media and reservations about using it in the classroom and education to go for higher education institutions.

Individuals or institutions work to provide a sustainable future for “the resource and services needs of current and future generations without compromising the health of the ecosystems that provide them” (Morelli, 2013). Previous empirical studies have primarily focused on a single medium, whereas this study examines the combined influence of social media and the way that they have been able to make their impact on post-millennials for choosing their choice-based higher education institution.

11.2 Literature Review:

Many researchers have conducted a variety of exploratory studies that show the impact of social media on learning experience of students. Most of the studies have highlighted the student’s experience on various social media platforms like Facebook, WhatsApp, G. Meet, etc. However, coming to the concept of higher education courses being chosen by the post-millennials, there are some studies that have reported consistent findings for teaching and learning surveys on social media. According to several studies, educators have a duty to educate students about the challenges they will face once they pass out from college and enter the organizational environment. (Duffy, P., Bruns A, 2011).

In a semi-experiment, Thoms, Eryilmaz, and Gerbino allowed students to use an internal online social network (OSN) to obtain peer-assisted suggestions. They also discovered that using OSN increased students' perceptions of engagement and peer support, both of which may promote learning (Thoms, B., Eryilmaz, E., Gerbino, S., 2014).

The majority of studies concentrate on certain social media platform technologies, but only a limited discussion has taken place about integrating the platforms with the higher education of post-millennials. The rapid pace at which technology changes, privacy issues, security concerns, facilitating access for disabled pupils, or rising a burden because educators have not got much attention (Seaman, J., Tinti-Kane, H, 2013). According to Nayar and Kumar (2018), information and communication technology removes the time and space constraints of the higher education allowing access from anywhere at any time. Numerous promotional techniques, like traditional print and public press, have come across substantial difficulties in recent years as social media has encountered significant challenges in terms of timeliness, convenience, and cost-effectiveness. Consequently, many higher education institutions have adopted social media in some capacity for marketing purposes. As a result of the social media ecosystem, HEIs can amplify psychological interaction with students and increase impact by monitoring student-to-student conversations (Ashley & Tuten, 2015).

11.3 Methodology:

The study is based on the review of literature done out of the various relevant papers, having some features of social media, post-millennials, and their decision-making process regarding opting for a particular higher education institution. Literature was gathered and reviewed on how social media platforms are used in higher education for post-millennials’ decision making with regard to choosing the apt institution for continuing their studies. The entire work was aimed to find full-text papers that presented empirical studies on social media usage in postsecondary learning.

The effects of social networking, both good and bad, on post-millennials were found out through various studies and the criteria followed was basically revolving around the influence of social media platforms on the post-millennials mind-set and factors having an impact on them to opt for the higher education institution that would best fit them.

Also, only those papers were taken into consideration that were written in the English language, between 2010-2022 and involved social media tools in association with higher education institutions' choice and post-millennials' decision making process.

11.3.1 Objectives:

- To find out the influence of social media on post millennials' choice of opting their course for higher education institutions.
- To throw light upon the pros of social media platforms on post millennials' decision-making process about choosing a particular course for higher education.
- To highlight the various challenges being faced by the post-millennials with regard to their future course of education.

11.3.2 Findings:

This section gives a highlighted view to the findings of the present literature research. The findings have accordingly been listed, keeping in mind the pros and cons of social media platforms on the decision-making process of post-millennials for choosing their preferred course in higher education institutions.

- **Influence of social media on post-millennials' choice of opting their course for higher education institutions.**

Researchers have investigated the use of social media as instructional tools in a variety of academic fields. Though social media platforms' application is not confined to one academic subject, it has been particularly prominent in literacy instruction, medical, marketing, and social work. A growing number of small-scale,"empirical" investigation clearly finds comprehensive benefits and advantages of social media for education. For example, we recently learned about the benefits of Twitter usage.

The impact of social networking sites on university educators involvement and grades (Junco et al., 2011) as well as the capability of social networking platforms to generate positive sentiments about learning lessons (Hung and Yuen, 2010).

Facebook appears to have more influence than other social media sites. It is also clear that the majority of HEIs have employed Facebook as a marketing tool. (Šola and Zia, 2021). A study done by QUANSAH Joseph Yaw Dwamena and others suggests that student-nurses spend the majority of their time on Facebook, WhatsApp, Google+, YouTube, and Twitter. Participants primarily used social media to learn, socialise, and entertain themselves. The majority stated that social media has a good impact on their academic achievement. (Brydolf, 2007).

- **Pros of social media platforms on post millennials' decision making process about choosing a particular course for higher education.**

In terms of student participation and growth, social media presents a significant opportunity for higher education institutions. According to Harmon, Alpert, and Hilsten (2014), vigorous participation of the students in a Facebook discussion colloquy had a beneficial effect on students' grades. Post-millennials engagement in social media has helped them to choose the perfect course for pursuing higher education. There are a wide variety of unique applications being used by post-millennials as a medium to opt for a particular higher education course. Social media may be an effective tool for fostering a sense of belonging among students on campus and encouraging them to stick around.

When correctly utilized, these sites can spark discussion and create chances to encourage students to engage more with their classes and campus learning (Kumar and Nanda, 2018).

- **Cons of social media platforms on post millennials' decision-making process about choosing a particular course for higher education.**

Those who merely want to share links may have a harder time getting people to interact than those who want to share photographs and videos. On some sites, such as Facebook, individual user posts display higher in newsfeeds. If students rely too heavily on social media, they may find it difficult to engage with one another and might get confused about selecting. For students who like to communicate with others on social media to resolve their academic concerns. According to some research, this makes individuals unable to socialise with people they encounter in person, and they may tend to shun face- to-face communication completely.

11.3.3 Conclusion:

Integration of specialized social network technologies all-round the path of students can enrich and engage their acquaintances, resulting in higher education success. The findings from the study clearly indicate that it is to a very great extent that social media platforms have served the purpose of post-millennials to choose an apt higher education course for their further studies. However, there are certain challenges that come on their path. Findings reveal openness to using social media in education by post-millennials and their decision-making process gets enhanced when they get exposed to various social media platforms.

11.3.4 Recommendations:

- Future research should look into the gap and propose alternative strategies so that the value of using social media platforms to choose higher education courses is not lost.
- The influence of social media has been to a vast extent on the parents' behaviour for selecting their child's higher education which remains out of the scene here.
- Further research on social media platforms being considered for school-going students' admission into various schools is suggested.

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12. Combating with Complicated Unstructured Health Sector Requirements in India: Implementing PPP Model

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Abstract:

Present pandemic uncovered the shortcoming of medical care frameworks, including lab frameworks, and is a source of inspiration for extraordinary joint efforts and associations to manage the worldwide emergency. A significant vehicle used inside the worldwide general well-being setting is the public-private association (PPP) model by which numerous global associations produce bound together task contracts to arrive at commonly concurred objectives altogether. This is an optimal component to combine assets and amplify gain; however, little is known according to a partner viewpoint with respect to PPP execution and manageability issues. Different examinations uncovered three prevailing topics: PPP impacts, keys of effective coordinated effort, and strategic moves and chances to improve the supportability of PPP results from now on. In such a manner, an efficient and conclusive audit of writing on the basic achievement factors (CSFs) for PPP will be embraced to broaden the comprehension of the most ideal techniques for conveying PPP projects in the medical care. The examination will be an endeavor toward recognizing the CSFs of PPP projects in Medical services Area. The result of the review is helpful for the specialists and professionals for the fruitful execution of PPP projects.

12.1 Introduction:

Public-private associations, or PPPs is a term that can be utilized to depict a general class of exercises and constructions, including public and private areas, characterized by the World Wellbeing Association [WHO] extensively as: "wide assortment of adventures including a variety of courses of action, fluctuating as to members, legitimate status, administration, the board, strategy setting privileges."

A PPP includes one center public, non-business association, and one private or business association that join to share endeavors and prizes of the coordinated effort. It is for the most part concurred that PPPs have or ought to have social worth or add to further developed well-being of weak populaces, by and large concerning expanded medical care framework proficiency and access, diminished costs, and expanded advancement or innovativeness. The after-effects of a 2014 deliberate survey uncovered there is a solid concentration inside the surviving PPP writing on efficiencies ascribed to graduated models of public medical services framework and conveyance support assigned to the private area. The most widely recognized PPPs include conventional acquisition agreements to help actual framework or building support.

In any case, there is expanded interest in the inception of PPPs that lay out new PPP objectives, for example, general well-being mediation increase and wellbeing frameworks limit building. The qualities that drive creative cross-breed PPPs, for example, bypassing administrative public agreements and administration, bring up pivotal issues with respect to how such PPPs present the two advantages and cutoff points by the plan. In like manner, they require growing result evaluative boundaries to incorporate contemplations connected with PPP inputs and supportable advancement.

Measurements that evaluate PPP methodology results past money and wellbeing markers are regularly ignored in general well-being research. Utilizing a worth-based cooperating focal point can move center towards the nature of connections and organization accomplice associations which can count benefits past sickness transmission patterns and viral concealment rates. Pondering collaborations and compromises made during PPP execution can possibly uncover vital roads to make and support long haul significant connections and individual hierarchical commitment. Review assessments tending to worldwide well-being PPP supportability are intriguing, yet they give the capacity to investigate both expected as well as accidental effects, which are basically significant while investigating enduring effects of associations.

12.2 Literature Review:

In the Indian setting of low government medical services consumption, Rashtriya Swasthya Bima Yojana (RSBY) is a public health care coverage conspire for underneath destitution line Indian families to give further developed admittance to hospitalization and more prominent monetary assurance by means of a public-private-association utilizing private area execution limit. The review targets are to get administration (counting administrative) climate and agreement plans, assess the development of administrations to recipients, and evaluate the consistence of suppliers and client fulfillment. A contextual investigation approach in two areas addressed the issue of top-to-bottom data on plot working, and RSBY execution was inspected somewhere between 2011 and 2013 in Patiala (Punjab) and Yamunanagar (Haryana). Strategies included20 key partner interviews, examination of optional datasets on recipients and cases, essential information assortment in 31 public and private medical clinics and in more prominent profundity in 12 clinics, and a leave study of 751 patients. Selected and non-enlisted medical clinics were planned in each region and administration accessibility of enlisted clinics evaluated; enrollee attributes were examined; for the 12 emergency clinics, data was gotten on primary quality and interaction of care, and patient fulfillment and cash-based installments.

The Indian states and the public authority of India didn't indicate formal administrative, and execution methods exhaustively and states generally contracted out their capacities to private protection firms. Discoveries show administrative shortcomings and legally binding breaks. Enrolment rates were low in the two locales and that's just the beginning so for Patiala and there was restricted admittance to administrations. There was little contrast in the course of care among public and private emergency clinics; however, the underlying limit of private emergency clinics was superior to public clinics. RSBY further developed availability and gave a level of monetary assurance to patients. It effectively drew in existing assets in the Indian medical services and protection markets.

Over recent years, cross-area associations that incorporate the private area have become an inexorably acknowledged practice in general wellbeing, especially in endeavors to address irresistible infection in low and center pay nations. Presently they are turning into a well-known device in endeavors to lessen and forestall heftiness and the pestilence of non-transmittable illness. Banding together with business presents a method for procuring assets, as well as any open doors to impact the private area toward more invigorating practices. The joint efforts are a centeral rule of general well-being practice; but open private or non-benefit private organizations present dangers and difficulties that warrant explicit thought. In this article we survey the job of general wellbeing associations with the private area, with an emphasis on endeavors to address stoutness and non-transmittable illness in big league salary settings. Difficulties, gambles and basic achievement factors applicable to collaborating are distinguished, as are regions for further developing general well-being practice to illuminate decision-production around organization improvement.

Public Private Organizations (PPP) have been utilized in the development business also to convey basic foundation projects in different areas. PPPs execution improvement is a present partner worry because of various undertaking disappointments. An examination analyzes PPPs transport and wellbeing area foundation in the Unified Realm and Ghana to create a practical exhibition revised and advance model. The examination point is twofold: first, to foster an exact execution advance model for PPP best practice execution for the UK and Ghanaian vehicle and well-being areas. Also, it will analyze and look at the UK and Ghanaian PPP transport and well-being area partners' Basic Achievement Elements (CSF) and chances. A factual investigation will be utilized to recognize the CSF and takes a chance for fruitful execution. The proposed examination will lay out important data for general society and private areas' partner advantages while putting resources into transport and wellbeing framework projects by PPP in both the UK and Ghanaian development ventures.

Albeit the public-private associations in wellbeing have been embraced as the best pathway to further developing wellbeing results in many non-industrial countries, execution needs cooperative initiative. The motivation behind this observational subjective contextual investigation was to decide key factors that advance administration collaboration between accomplices that upgrade possession and responsibility of local area well-being and social drives in African countries. The dispersion of development hypothesis and public-private coordinated organization module was the hypothetical system directed this review. Dissemination of the development hypothesis depends on the significance of viable correspondence to spread novel thoughts and cultivate change in conduct in a gathering like public and private association reconciliations (Roger, 2003). Many members answered top to bottom, one-on-one meetings, and the connected archives were surveyed.

Six topics arose with the utilization of coordinated content examination and N Vivo program. Discoveries additionally showed that muddled jobs and obligations, feeble information, and restricted comprehension of the advantages of public-private associations at the local area level ruin proprietorship and responsibility. The expected positive social difference in this study incorporates further developing admin collaborations that advance local area pioneer commitment and at last further developing access and utilization of local area well-being and social projects in African countries.

12.3 Research Objective:

This work plans to investigate a particular peculiarity of development in well-being the executives: public-private organizations inside the Indian medical services area. In such a manner, a deliberate and conclusive audit of writing on the basic achievement factors (CSFs) for PPP will be attempted to broaden the comprehension of the most ideal techniques for conveying PPP projects in the medical care area. The examination will be an endeavor toward recognizing the CSFs of PPP projects in Medical Services Area.

12.3.1 Research Methodology:

Broad writing audit and semi-organized interview meetings will be led with a few key task staff from both public and private partners associated with the chosen contextual analysis project. The fundamental motivation behind these meetings is to lay out a system for CSF for coordinating the PPP approach in public medical services projects in India.

12.3.2 Analysis and Discussion:

A deliberate survey of current information on PPPs in medical care is attempted. Existing investigations by Tang et al. (2010), Osei-Kyei and Chan (2015), Bao et al. (2018), and Hodge and Greeve (2015), have embraced and suggest deliberate audits as a helpful way to deal with acquiring information for impacting strategy activities. To gather information, the review looked for watchwords utilizing motors, for example, Google researcher for articles utilizing search words like well-being accomplice ships, public private organizations; public private associations in medical care; cooperation in help conveyance; Corona virus and medical services frameworks.

By audit of articles from Google researcher look, the hunt stretched out to famous diaries from which they looked through articles was distributed. From this search, the review pulled in more than 53 articles. The pursuit inside the articles was then reduced by understanding digests and full papers on open private associations in well-being, from which 28 Articles and 7 records were separately chosen for the survey. The reasoning behind the decrease in the information gathered depended on the similarity of the words found in existing information. Drawing from a survey of writing, this paper reasons that PPPs in medical care conveyed a few steps like PPPs in different areas like vehicle and energy. Like in different areas, PPPs in medical care have a few impediments. From the union of the surveys, this study had the option to show up at sorts of PPPs in well-being, and challenges looked in the reception of PPPs in well-being while at the same time giving viable and hypothetical ramifications to practice and future exploration.

12.3.3 Critical Success Factor:

As indicated by Jefferies (2006), the idea of CSF was created by Rock workmanship and the Sloan School of The Executives with the expression initially utilized with regards to data frameworks and task the board (Rock craftsmanship, 1982). Basic achievement factors are those key issues innate in the undertaking, which should be kept in control f or group attempting to happen in a productive and compelling way. They expect everyday consideration and work over the lifetime of the venture (Rowlinson, 1999).

Various circumstances are expected to make an effective PPP. This incorporates level connections between the gatherings, consensual direction, or utilization of regard and trust as significant changes of social capital, and more prominent clearness depicting connections among government and the private area (Yates, 1995). Different issues have been accounted for on PPP drives all over the planet that have at last prompted project disappointment. As per Toll (1996), Public resistance, because of different variables, has been accounted for as the fundamental justification behind disappointment in a few occurrences.

Significant PPP transportation drives in the US have apparently flopped because of partner resistance. These disappointments were mostly in light of the fact that general society was (a) ignorant about the idea of PPP, (b) not adequately instructed about PPP and, (c) denied admittance to nitty gritty data contained in the consortium's PPP recommendations (Toll, 1996).

Exploring the writing, various writers have distinguished the achievement of entertainers of venture acquisition under PPP or comparable ideas. Jefferies (2006) explored writing for CSF of the PPP come closer from the accompanying examination work (Tiong, 1990, Tiong et al., 1992, Tiong and Alum, 1997, Keong et al., 19 97, Award, 1996, Salzmann and Mohamed, 1999, Kanter, 19 99, Jefferies et al., 20 02, Duffield, 20 05, Hardcastle et al., 2005). The most widely recognized achievement factors are summed up in Table 12.1.

Table 12.1: Review of Critical Success Factors in PPP- Developed based on (Jefferies, 2006)

Sr.No.	Critical Success Factors	Author(s)
1.	Developed legaland economic framework Favorable inflation, exchange interest rates	Tiong1990
2.	Financial capability and support-Technical innovation	Tiongetal.,1992
3.	Avoiding delays and cost overruns - A well prepared Environmental Impact Statement	TiongandAlum,1997
4	Comprehensive feasibility study-Existing infrastructure- Political stability and support	Keongetal.,1997

Sr.No.	Critical Success Factors	Author(s)
5	Expertise-Localpartner(s)	SalzmannandMohamed,1999
6	Commitment-Strong private consortium	Hardcastleetal.,2005
7	Appropriate risk allocation	Grant,1996
8	Shared authority /Consensual decision-making	Kanter,1999&Yates 1995
9	Transparency	Jefferies etal.,2002
10	Developing a culture of partnership	Duffield,2005

Table 12.2: Adverse / Threat factors affecting healthcare project- source: (Abdou et al., 2005) Risk Element

- Project variation by client
- Slow course of government endorsements
- Lack of plan specialists
- Lack of direction from client Economic situations
- Inadequate particulars
- Incomplete/Unfortunate venture scope
- Poor execution and its frameworks
- Lack of correspondence/coordination inside Govt. associations
- Inappropriate undertaking association structure
- Project plan intricacy
- Errors and exclusions
- Defective deficient plans
- Resources deficiency
- Culture contrasts
- Exchange rate changes
- Inflation and financing cost
- Frequent changes in project consultancy costs
- Changes in strategies and regulations
- Excessive tax on material
- Political instability

Table 12.3: Fundamental Basic Achievement Elements (CSF) of Public Private Organization

(PPP) in Medical care Ventures. Basic Achievement Elements:

a. Complete and business practicality of venture plausibility study
b. Clear undertaking brief and client results

c. Appropriate mix of public and client/end clients' necessities;
d. Sufficient Specialized accuracy of plan and detail
e. Appropriate venture control frameworks during various task stages
f. A totally ready Natural Effect Proclamation
g. Proper gamble portion
h. Viability of legislative Endorsement process
i. Viability of projects and coordination in between members
j. Solid private consortium and configuration/designing groups
k. Clear jobs and obligations of various partners
l. Obligation to progress
m. Shared power/Consensual navigation
n. Open correspondence and trust among project partners
o. Binding together a particular vision and fostering a culture of association
p. Legitimate debate goal instruments
q. Political strength and backing
r. Credit score of financial backers

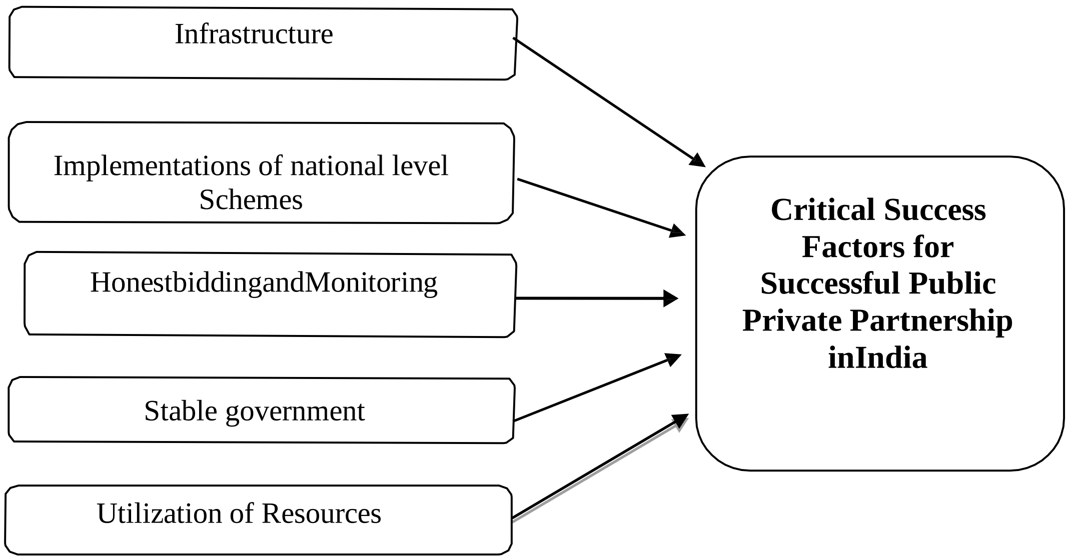

Figure 12.1: Conceptual Model for a successful PPP Projects in Indian health sector

As per the conceptual model there are certain focal points considering them as a unit to work together and make the PPP model successful. If Govt. providing Infrastructure support to private sectors who are willing to work in healthcare, that will be huge monetary support.

Government should implement national health schemes with the help of private players keeping hawk eyes on to inhibit the misuse of provided facilities. The most important factor is the stability of Govt, so Govt can take any decision in favours of public. Finally, maximum utilization of resources will make healthcare systems fruitful.

12.4 Conclusion and Future Work:

The introduced work in this paper is essential for a continuous exploration project targeting fostering a CSF system for incorporating the PPP obtainment approach in public medical care tasks and draws out illustrations for working on the adequacy and practicality of applying the PPP approach in these ventures.

This paper covers the writing audit stage, which centers on distinguishing the conceivable achievement and obstruction to progress variables of undertaking cases obtained under the PPP idea and fosters a primer rundown for conceivable basic achievement elements of the PPP acquirement approach in the Indian public medical care projects. For future study looking ahead, healthcare systems will be under ongoing pressure to increase quality and efficiency of care, and find new ways to use data, systems and distributed networks of providers focused more on wellness and disease prevention rather than on the acutely ill. Health systems will need to become more integrated, addressing care needs across the continuum while utilizing technology to enhance delivery.

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13. Sustainability in India: A Review on Government Policies

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Abstract:

In the present times when the development is taking place dynamically in all facets of the economy, it becomes vital for the goodwill of the society as well as the ecology to be maintained in a way that the needs of the future generations are not compromised. The concept of sustainability has been adopted world-wide in the form of sustainable development goals for this reason. India, being a part of the United Nations, has been working towards providing a sustainable world to its citizens. In this study, some of the policies like Pradhan Mantri Jan Dhan Yojna, Swachh Bharat Mission, Beti Bachao Beti Padhao, Pradhan Mantri Awas Yojna and Pradhan Mantri Ujjwala Yojna are reviewed and discussed in regard to the prospects of sustainable development goals. This review based qualitative study highlights the efforts made by Indian Government towards development in a sustainable manner. The policies take into account the pillars of sustainability, being economic, social and environmental. Sustainability in Indian development has come a long way but still there is a huge scope of maintenance and improvement in terms of policies initiated by the government. The future research can give an empirical perspective on the same subject and even the policies individually to provide more depth and insight on sustainable development in India.

Keywords: *Sustainability, Development, Government, Policies, Sustainable development goals.*

13.1 Introduction:

Development has been taking place in every area of Indian economy. Being one of the fastest growing nation in the world, it has partaken in various programs related to development, be it infrastructure, education, or social upliftment. Development is about bringing change in socio-economic front.

In the words of Peet (1999), development meant "an evolutionary process in which the human capacity increased in terms of initiating new structures, coping with problems, adapting to continuous change, and striving purposefully and creatively to attain newgoals." But development comes with its own share of resource depletion and environmental degradation leading to decrease in the quality of life for future generations.

Over the years, there has been exploitation of land, man and environment in the name of development (Katsoulakos et. al., 2018). To overcome such problems of development and function keeping in mind all levels of society, it must incorporate the concept of sustainability. The study followed a review based qualitative approach with the purpose to examine the efforts made by Indian Government towards development in a sustainable manner and how they were contributing towards attaining the goals.

13.2 Pillars of Sustainability:

Sustainability as a conception can be described as equally weighing the aspects of development i.e., environmental, social, and economic (Lozano, 2008). Hence the notion of sustainable development was given. The pillars of sustainable development also known to be triple bottom- line model given by Elkington in 1994 account to economic growth in terms of improvement in quality of life, social development in terms of enhancement in wellbeing of the people and environmental preventions in terms of reducing damage to the ecology. Sustainable development is the way by which sustainability can be achieved.

13.2.1 Sustainable Development Goals:

The 17 Sustainable development goals (SDGs) given by the United Nations in the year 2015 were aimed to be achieved by the year 2030. These were designed to be achieved a sustainable future that would be better for the plant and its people.

The SDG frame work contained 169 targets for progress measurement of each of the goal. These goals identified that policies for ending poverty, improvement in health, better education, reduced inequalities and growth of the economy with handling environmental changes must all go hand in hand for the betterment of the world.

13.2.2 Sustainable Development in India:

India, being a part of the United Nations, had been working towards providing a sustainable world to its citizens and on defining strategies and programs in accordance with the frame work of Sustainable development goals (Chaturvedi et. al, 2019). NITI

Aayog which stands for 'National Institute for Transforming India' was the primary policy making body in India which was responsible for the implementation of SDGs in India.

The main purpose of NITI Aayog towards the goals was the maintenance of overall conduct by the ways of supervision and policy guidance. A nationalized sustainable development goals framework was adopted in India to analyze the progress not just at national level but also at state level and such progress was reported in the Voluntary National Review (NITI Aayog, 2020).

This research article reviewed the government policies in India from sustainability point of view as the studies on this subject were still recent and for developing countries like India even important as they require more ways for timely achievement of SDG.

13.3 Policies launched by Indian Government towards sustainable development:

There have been various policies launched by the Indian government for sustainability in India as well as the achievement of the sustainable development goals. Some of these policies were reviewed under this study, namely- Swachh Bharat Mission, Beti Bachao Beti Padhao, Pradhan Mantri Awas Yojna, Jan dhan Yojana and Pradhan Mantri Ujjwala Yojna These policies were selected from the India Voluntary National Review as being one of the major contributors towards sustainability in India.

13.3.1 Swachh Bharat Mission (SBM):

SBM, also called Clean India was one of those missions of Indian Government aimed to achieve sanitation, hygiene, facilities for safe water as well as waste disposal and elimination of non-communicable and communicable diseases for all including both urban and rural areas, which were taken care by Ministry of Urban Development and Ministry of Urban Development (Srividya 2016, NITI Aayog, 2020 and Datta et al. 2021).

The scheme was directly linked with SDG 6 concerned with improvement in sanitation and hygiene (Poddar and Narula, 2019; Jain et. al., 2020; Behera et.al. 2022). It also addressed the SDG 3 which was associated with well-being and good health of the people as well as goals including SDG 11, 14 and 15 related to sustainable cities, life below water and on land (Pal and Barman, 2021).

This mission became the largest initiative of toilet‑building in the world (Dandabathula et al., 2019). The achievement of this mission depended on the coordinated support from administration and politics so as to scale up the mission (Anuradha et al., 2017). The practice of open defecation was very common in developing countries and the improvement in such practices in sanitation was vital for not only health of the citizens, but also for economic and social development in the nation (Anuradha et al., 2017).

Such practices also led to safeguard the self-esteem of women and reduce pollution (Pal and Barman, 2021). To upgrade female health, programs needed to adopt menstrual hygiene measures in bottom‑up approach and menstrual hygiene management required specific attention (Behera et al., 2022). Datta et al. (2021) in his study found that mission had inconsistency of practice among the population and municipalities for disposal of solid waste even while having good knowledge about the mission. It was very essential to conduct regular awareness or information communication drives to solve the issues like underutilization of the facilities for the success of the mission (Anuradha et al., 2017). The target of SBM was to free India from open defecation and achieving 100% management of municipal solid waste. Out of a total of 4,713 cities, 4,372 cities had been declared open defecation free.

Table 13.1: Toilet construction under Swachh Bharat Mission-Urban

Targets	MissionTarget	Constructed
Individual Household Toilet	58,99,637	62,75,506
Community & Public Toilet	5,07,587	6,23,682

Source: Swachh Bharat Mission Urban - Dashboard

According to PIB Delhi (2021), under the Swachh Bharat Mission (Gramin) 10.28 crore toilets were constructed in 36 states and UTs, for which more than 30 crore people partook in the behavior change drive. Due to accessibility of toilet facilities to all villagers, the rural sanitation achieved almost 100% success which further reduced sanitation and water related disease and caused annual benefits of more than Rs 50,000 per rural household.

13.3.2Beti Bachao Beti Padhao (BBBP):

BBBP was initiated in the year 2015 by the government of India to reduce sex ratio at birth imbalance and to provide protection to female children. “Sex ratio at birth (SRB) is a socio-demographic indicator that represents the relative number of male and female births”, as said by Gupta et al. (2021), reflecting the status of women and gender equality in the society. In the words of Kim et al. (2019), “Child sex ratio (CSR) is a marker of disproportionate sex ratio at birth and discriminatory practices that lead to differential survival in early childhood by sex.” This improvement could be progressive only through strong political will, community participation, strengthened policies and enhancement of social activities to handle women inequality issues and move towards social empowerment (NITI Aayog, 2020 and Gupta et. al., 2021). Nanda and Ray (2020), in their research, observed that Uttar Pradesh and Haryana had seen worst decline in sex ratio but the improvement after the policy did not just in terms of numbers but also reflect the change of mindsets.

The scheme called for rigorous cooperation between states and central governments along with the district for the prevention of sex- selective abortion, gender-biases, ensured protection of girl child, and promoted education of female child (Kim et. al., 2019). To sustain the effects of the policy, it was necessary to remain vigilant and maintain the changes in the culture and behavior of the people towards betterment of the society (Gupta et. al., 2018).

This scheme contributed towards SDG 4 which aimed to ensure that all children have quality education and development from early childhood development to primary education and SDG 5 which aimed at ensuring equal participation and opportunities for genders along with elimination of discrimination and violence against women (Chhibber, 2019; Pandey,2019; Rajeshwari, 2021).

There still exists a lack of understanding and awareness of the policy for which better media coverage and drives were recommended to be conducted for better community participation and success of the policy (Joshi, 2017; Chhibber,2019; Sharma and Borgohain, 2022).

The objective of bringing behavioral change in the society towards birth and rights of a girl child resulted in increased awareness and sensitization of the masses regarding prevalence of gender bias and role of community in eradicating it. Out of 640 districts covered under BBBP, 422 districts showed improvement in SRB from 2014-15 to 2018-2019, as reported by PIB Delhi (2021).

Table 13.2: Improvements due to BBBP

BBBP	2014-15	2019-20
Sex Ratio at Birth	918	934
1st Trimester ANC Registration	61%	71%
Percentage of Institutional Deliveries	87%	94%
Gross Enrolment Ratio of girls	77.45	81.32
Percentage of schools with functional separate toilets for girls	92.1%	95.1%

Source: PIB Delhi (2021)

The BBBP scheme brought the focus on significant issues like lack of education amongst girls, female infanticide and lack of their rights on a life cycle continuum. The scheme showed success by challenging the age-old prejudices against the girl child and presented ways to rejoice the birth of girl child.

13.3.3 Pradhan Mantri Awas Yojana (PMAY):

PMAY was introduced by the government to upgrade the slums in India by ensured housing facilities which were safe, adequate and affordable as well as provided financial assistance for housing (NITI Aayog, 2020; Meshram, 2020). It was due to the reason of rapid growth in urban population that overcrowded houses and temporary structures in form of slums by poor population started to increase which created a major challenge for the government to overcome (Vaid and Kar, 2018; Gohil and Gandhi 2019; NIPFP, 2019).

This scheme was the successor of Rajiv Awas Yojana of the previous government which ran for 3 years starting from 2010 to 2013, with similar aims as that of PMAY that was aimed to be achieved by the year 2022 (Bhan, 2017 and NITI Aayog, 2020). Shinde and Darade (2017), in their study, mentioned that the slums have been a substandard housing which lacked in basic amenities.

Improvement in housing led to progresses in infrastructure at community level as well as social wellbeing, which would further ensure livable and viable dwellings by for the people and prevent further degradation of the environment (Bhan, 2017; Shinde and Darade, 2017). This scheme also impacted the generation of employment in the country ensuring growth in various sectors of the economy (NIPFP, 2019).

Empowerment of women, both socially and economically, was also observed under the scheme due to its provision of having at least one female member as the owner for the new house which made them feel secure and boosted their self-confidence (Pal, 2019; Rao, 2020).

The scheme followed four strategies namely- Credit Linked Subsidy Scheme (CLSS), In-situ Slum Redevelopment (ISSR), Beneficiary Led Construction (BLC), Affordable Housing in Partnership (AHP) which make it holistic in approach of handling the affairs of urban housing shortage (Rao,2020). The sustainably planned housing under the scheme consisted of urban economics, energy efficiency, urban finance, climate change, community participation etc. went beyond the environmental aspect and also considered economic and social development furthermore claimed to realize SDG 11 (Vaid and Kar, 2018; Vaidya, 2020). The scheme was initiated with the target to finish 2.7 crore houses, out of which 1.8 crore houses were constructed which marked 67.72% of the target (PBI Delhi, 2022).

13.3.4 Pradhan Mantri Jan-Dhan Yojana (PMJDY):

PMJDY aimed to provide financial inclusion to the population that could not have access to banking facilities like pension, credit, insurance etc. to encourage thrift and savings of income among such poor population living in urban, rural and semi-rural areas which were usually ignored by formal institutions (Malligar and Bankapur, 2016; Sharma and Goyal, 2017; NITI Aayog, 2020). “Financial inclusion means provisioning of financial services to the marginalized section of society, which should be both affordable and equitable”, as stated by Kumar et. al. (2020) since reachable and affordable financial institutions without red-tapism was of vital importance.

Swabhimaan scheme which otherwise achieved its aims but could not make available the access to micro-insurance, micro-credit, and digital money hence PMJDY was launched by the Indian government to overcome these loopholes (Ravikumar, 2018; Sharma and Goyal, 2017). This was a rather important step as India consisted of a large rural population as the program would support financial services to be available in an equitable, fair, and transparent way at affordable rates (Shafi and Reddy, 2019). Financial inclusion led to economic development through SDG 1 for reduced poverty, SDG 3 for well-being and SDG 8 for sustainable economic growth (Sharma, 2016; Dikshit and Pandey, 2021). A strong financial structure promised improvement in well-being of the people and channel funds towards investment as well as boosting credit availability in the nation, hence improving economic growth and capital assets availability (Ravikumar, 2018). The programs like Bank Mitra provided branchless banking services which brought about growth and brought change in the socio-economic front (Senapati, 2018). The highest number of accounts with zero balance under the PMJDY scheme was in the state of Uttar Pradesh as reported by Malligar and Bankapur (2016) and concluded that the performance of the public sector banks was better in comparison with the Private and Regional Rural Banks. Senapati (2018) assessed that the accounts because of poverty, illiteracy, or products offered were unsuitable to the account holders hence they remained underperformed.

Kumar et al.2020, suggested that the policy required complete revision of the financial system focused particularly on the backward areas, for enabling digital literacy though awareness creation. According to PIB Delhi (2021), since 2014, 1 in 2 accounts opened was PMJDY account. These accounts grew three-fold from 14.72 Crore in 2015 to 43.04 Crore as in2021 which showed commendable progress in financial inclusion. Deposits also increased to 6.38 times from 2.4 times as of 2021 which indicated improved usage of accounts and engraining the habit to save money. In 2021, it was disclosed that 36.86 crore accounts (85.6%) were operative out of a total of 43.04 crore accounts marking the regular usage of accounts by the customers.

13.3.5 Pradhan Mantri Ujjwala Yojana (PMUY):

PMUY launched by Indian government in the year2015 became an example of major social inclusion in India, aimed to correct the high dependency on biomass for cooking especially in rural areas through distribution of LPG at subsidized rate in lower income population and ensured a sense of ownership among them (NITI Aayog, 2020, Ahmad et al., 2018; Ranjan and Singh, 2020).

PMUY was a strong initiative by the government which sought to address challenges in India related with health, energy and gender (Dabadge et al., 2018; Nanda, 2019). This scheme empowered the women below poverty line who opted for the connection under the scheme both economically as it required an account in a nationalized bank, as well as socially since they got more time which otherwise went into making dunk cakes or fetching fire wood for their household and became a part of decision making, accompanied by prevention from other health hazards linked to such cooking fuels (Swain and Mishra, 2020; Ahmad et al., 2018; Aggarwal et al., 2018; Ranjan and Singh,2020). Ahmad et al. (2018) and Nanda (2019) observed that the scheme was in the right direction for women as well as the whole nation by means of cleaner environment, reduced air pollution and a healthy society. SDG 7 which was concerned with affordable and clean energy showed progress through PMUY (Sarangi et al., 2019; Sahoo et al.2022). A concern highlighted by Dabadge et al. (2018) was the lack of easy availability of public data, which hampered the progress along with assessment.

Though PMUY aided the rise in LPG connections, it could not accelerate the consumption demand of the people (Ranjan and Singh, 2020). To achieve this goal, the scheme needed to be expanded for the below poverty line households by increasing the level of subsidies to bring upsurge in consumption (Gill-Wiehl et. al., 2022). The target of the scheme was to release 8 Crore Connections of LPG to the deprived households by March 2020. Since then, the LPG coverage increased from 62% in 2016 to 99.8% in 2021. This scheme worked as one of the major promoters in improving the socio-economic status of women in India (PIB Delhi, 2020).

13.4 Conclusion:

Under the study, major government policies namely- Swachh Bharat Mission, Beti Bachao Beti Padhao, Pradhan Mantri Awas Yojna, Pradhan Mantri Jan Dhan Yojna, and Pradhan Mantri Ujjwala Yojna were studied from the point of view of being sustainable. Swachh Bharat mission was directly linked with SDG 6 providing sanitation and hygiene along with addressing SDG 3, SDG 11, SDG 14 and SDG 15. Beti Bachao Beti Padhao was concerned with SDG 4 for education and SDG 5 for elimination of discrimination against females. Pradhan Mantri Awas Yojna was about providing sustainable cities and communities, covering SDG 11. Pradhan Mantri Jan Dhan Yojna consisted of financial inclusion which directly influenced economic development and covered SDG 1, SDG 3 and SDG 8 concerned with poverty reduction, social wellbeing and sustainable economic growth. Pradhan Mantri Ujjwala Yojna which aimed on providing affordable and clean energy in form of LPG directly linked itself with SDG 7.

The study indicated that the policies contribute to not just one sustainable development goal but a number of them simultaneously covering mostly all the three characteristics of sustainability that were social, economic and environmental. The finding of the study showed that the policies were moving in the right direction but needed more awareness especially in case of Jan dhan Yojna, Swachh Bharat Mission and Beti Bachao Beti Padhao where community participation was of utmost importance. In case of Awas Yojna and Ujjwala Yojna which promises better wellbeing of the people especially due to the sense of ownership provided to the beneficiaries but still needed an easier access mechanism on the ground level.

It was also observed that women empowerment and pollution reduction were shouldered by majority of the policies. It can be suggested that more awareness campaigns and easy access mechanisms for better community participation and optimum utilization can be done for better reach of the policies as well as a vigilant approach by the government would help the nation move towards sustainability. The future research can give an empirical perspective on the same subject and even the policies individually to provide more depth and insight on sustainable development in India.

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14. Nexus between Political Instability and Economic Growth in Kashmir

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Abstract:

Political instability can be broadly described as any sort of insurgency or revolution; nevertheless, military-led coups d'etat have been particularly common in developing economies throughout the post-independence period (McGowan, 1986).Political instability is believed to boost policy variability, that encompasses a harmful impact on successful economic choices. Because a high risk of a change of state implies unknown future policies, risk-avoiding economic powers could forgo making major economic choices or abandon the economy altogether, preferring to speculate overseas (Alesina et al., 1996). Economists consider political instability to be a major ailment that harms economic performance. The Jammu and Kashmir's current political and economic concerns are intertwined. Since 1947, the former state of Jammu and Kashmir has been a source of contention between India and Pakistan (UNSC Resolution 47).

It is a major section of India, yet it is known as the juggler's vein in Pakistan. In this struggle between these two countries, Jammu and Kashmir pays a significant price on the economic, social, human, and political fronts. Because of political instability and cross-border tensions, the state is normally under heavy lockdown for 6-7 months of the year. Every socio-economic activity in Kashmir has been adversely affected by the ongoing political uncertainty in general and the two-decade-long armed conflict in particular. This paper is an attempt to study and explore the link between political instability and economic growth. The study's approach is a thorough assessment of the literature in the disciplines of political instability and economic growth, with an emphasis on some of the basic assumptions and statements in both literatures.

Keywords*: Political Instability, Economic Growth, Kashmir.*

14.1 Introduction:

Political instability is thought to enhance policy uncertainty, which has a detrimental impact on productive economic decisions. Because a high possibility of a change of government implies unknown future policies, risk-averse economic agents may forgo making major economic decisions or abandon the economy altogether, preferring to invest overseas (Alesina et. al., 1996).

Economists consider political instability to be a major ailment that harms economic performance. Policymakers' horizons are likely to be shortened as a result of political instability, resulting in sub-optimal macroeconomic policies.

Additionally, it might result in more frequent changes in policy, which would raise volatility and have a negative effect on macroeconomic performance. Given the negative effects on economic growth, the degree to which political instability is prevalent throughout countries and over periods is quite astonishing. In today's world, the government's intervention in economic activities is scarcely surprising. Governments have the ability to influence economic growth and development in any country since they tend to control a significant portion of society's resources. Kashmir is a breathtaking and enthralling place abounding in natural beauty.

The breathtakingly picturesque Valley of Kashmir has stood for tranquil contemplation, intellectual growth, and religious variety coexisting in a mostly tolerant society since ancient times. The blend of Islam, Hinduism, Sikhism, and Buddhism in the current geopolitical era exemplifies this diversity. There are two key facts of Jammu and Kashmir: first, it is one of the most picturesque states in Northern India, which contributes to the state's large tourism industry; second, it has borders with Pakistan, China, and Afghanistan, which contributes to political instability (Tabasum et al., 2017).

Due to the involvement of two nuclear powers in the Kashmir issue, it is considered to be among the most perplexing issues in global politics. Given both the parties, India and Pakistan involved in the disagreement have differing perspectives on the cause and course of the war. Almost all agree that the region urgently requires peace in addition to major economic growth. The magnitude of economic adversities caused by the conflict cannot be attributed to a single industry. Aside from wrecking the region's infrastructure, the violent conflict has discouraged private investment, forcing the economy into stagnation (Ahmad et al., 2011).

The instability that engulfed the entire valley made the already weak industrial growth and bad investments much worse. Furthermore, bad budgetary management and inadequate administration contributed to the State's dismal economic growth. The Reuters report stated, "As a result of separatists' calls for a shutdown over the course of the past 20 years, Kashmir has lost more than 1500 working days (more than four years) dealing a serious hit to its faltering economy". Every day of a shutdown costs the Kashmir Chamber of Commerce and Industry 100 million rupees loss of revenue as per KCCI.

Despite the fact that the relationship between political instability and economic growth has been researched extensively and has remained popular among researchers for quite a long time now, it still has not been researched in the context of Kashmir. The relationship has been studied under various other categories like investment, GDP etc. but the measurement of economic growth in the most generic sense also remains to be a major drawback of the previous research which will be addressed in this paper. With a focus on some of the general assumptions and assertions in those literatures, an exhaustive literature review in the disciplines of political instability and economic growth is the methodology used in this study.

14.2 Literature Review:

14.2.1 Economic Growth:

Economic growth is characterized by an increase in the value of a nation's goods and services, which leads to higher company profits. Because it considers the overall economic output of a country, the gross domestic product is the greatest approach to measure economic growth. GDP covers all commodities and services produced for sale by firms in the country, whether they are sold domestically or globally has no bearing. Numerous economists have noticed the long-term incidence of political (and policy) instability in numerous countries and its detrimental implications on such countries' economic performance. Due to this, the field has generated a sizable body of literature that details the negative effects of political instability on a range of macroeconomic factors, including GDP growth, capital investment, taxation, public expenditure and investment debt, and inflation, among others. Measures of policy volatility and subjective political perception perform the best in cross-country growth regressions, whereas democracy performs the worst, according to Brunetti's (1997) analysis and summary of the major political factors impacting economic growth. Alesina et al. (1996) show that GDP growth is significantly lower in nations and time periods where government collapse is very likely using data from113 nations between 1950 and 1982. According to Chen and Feng (1996), government repression, political polarisation, and unstable regimes all have detrimental effects on economic growth. In a more recent study, Jong-a-Pin (2009) used factor analysis to examine the impact of 25 political instability indicators on economic growth. The key finding is that poorer economic development occurs when political instability is more severe. Alesina and Perotti (1996) provide an example of how socio-political instability produces an unstable political and economic climate that raises risks and discourages investment. According to Devereux and Wen (1998), political instability raises the percentage of government spending in GDP, and political uncertainty lowers public investment in OECD countries (Darby et al., 2004). Aisen and Veiga (2006, 2008) illustrated that political instability leads to a larger reliance on seignior age revenues and higher inflation. It's interesting to note that the mechanisms at play in their studies to explain inflation are comparable to those impacting economic development; specifically, political instability reduces states' time horizons, interrupting long-term economic plans that improve economic performance.

14.2.2 Political Instability:

Political instability is described as the possibility of a government imploding as a result of internal conflicts or intense rivalry between political parties. The likelihood of future changes is increased by a change in government. Political unrest is a common occurrence. Political instability can be broadly described as any sort of insurgency or revolution; nevertheless, military-led coups d'etat have been particularly common in developing economies throughout the post-independence period (McGowan, 1986).

Since political instability in a nation cannot be accurately measured, research studies typically depend on proxies such as political killings and revolutions or proxies like the frequency of coup attempts d'état (Londregan and Poole, 1990; Barro, 1991). While some aspects of political instability may be captured by these measures, they are far from ideal. In order to combine several indicators into a single index, some authors accept measurement imperfection and employ discriminant analysis (Gupta, 1990; Venieris and Gupta, 1986) or principal components analysis (e.g. Alesina and Perotti, 1996; Annett, 2001).

Others (such as Cukierman, Edwards, and Tabellini, 1992; Alesina, Ozler, Roubini, and Swagel,1996; Chen and Feng, 1996; Svensson, 1998) use binary choice models to forecast the likelihood of governmental change, where the emergence of (unusual) government transfers is correlated with various economic, political, and institutional variables.

14.3 Kashmir:

Kashmir is a breathtaking and enthralling place abounds in natural beauty. Kashmir has been referred to as heaven on earth because of its snow-capped mountains, flowery meadows, massive glaciers, and shimmering lakes. History demonstrates that the economy of any region suffered significantly whenever and wherever militancy or political movement gained ground. The Kashmir region has experienced this since 1989. A place's economy is always viewed in terms of its industry, agriculture, and other sectors.

In comparison to other Indian states, Kashmir rarely has an industrial sector of the same size (Ahmad et al., 2011). The state's per capita income in 2007 was only 17174, which is only 25907 percent of the national average, according to a report published by the Finance and Planning Commission. In contrast to the national average of 7%, the State's economy increased by 5.5 percent annually over the first four years of the tenth five-year plan.

14.3 Relationship between Political Instability & Economic Growth:

There are two types of effects that socio political instability can have. To begin with, it generates uncertainty in terms of the political and constitutional landscape. It also disrupts labour rights and business operations, which significantly lowers efficiency. Performance and instability frequently conflict. Conflict and development are closely related, and this relationship is reciprocal - conflict exacerbates development failures and vice versa. The Organisation for Economic Co-operation and Development (OECD) also makes the case that sustainable development cannot be achieved without peace and stability, and that peace and security cannot be possible without addressing the basic needs of the populace in its policy statement and guidelines on conflict, peace, and development from1997.Fiscal deficits are linked with slowdowns and contractions in growth, but political opposition frequently stifles constructive activity, which is detrimental to economic growth. Whether brought on by political or economic developments, these heightened uncertainties have a negative impact on economic performance, especially in the short run. On the other hand, political stability and financial progress may eventually have a positive effect on growth. Loans to the private sector and shifts from autocracy to democracy, for instance, are widely mentioned as crucial elements of long-term prosperity in various nations. Political uncertainty can be made worse by political instability, especially in nations with intense political polarization. If the next government is likely to adopt policies similar to those of its predecessors, the likelihood of a change in government may not have much of an impact on expectations for future economic policies. However, in highly polarized societies, government changes may result in radical policy changes that have a significant impact on both past and future economic activities. All of these points to a state of insecurity. Economists have been attempting to understand the relationship between political instability and economic outcomes since the early research by Venieris and Gupta (1986) and Gupta (1990). Political instability can affect economic outcomes for two reasons, according to Drazen (2000). To begin with, political instability produces uncertainty about future institutions and politicians, altering the behavior of private persons and enterprises in terms of capital accumulation. It also changes the motivations of decision-makers who want to stay in power longer or make the most of their position while in government. Second, because political instability disturbs market functioning and economic ties, it can have a direct impact on productivity.

14.3.1 Political Instability, Economic Growth and Kashmir:

Jammu and Kashmir's current political and economic concerns are intertwined. Since 1947, the former state of Jammu and Kashmir has been a source of contention between India and Pakistan (UNSC Resolution 47). It is considered an important part of India, but Pakistan refers to it as the juggler's vein. Jammu & Kashmir suffers a high price on the economic, social, human, and political fronts in this conflict between these two countries. Additionally, it is concerning that there aren't any encouraging socio political and economic indicators. Since 2011, the Gross Domestic Product (GDP) of J&K has started declining after years of consistent increase.

The state experienced a negative growth rate from 2014 to 2015 of 1.57%, while India's national GDP increased by 7.2%. In addition to the deaths caused by the ongoing violence and insurgency, infrastructure and investments worth millions of dollars have also been damaged (Narain, 2016). On top of that, due to political unrest and tensions across borders, the state is usually placed under heavy lockdown for 6-7 months out of the year.

The state also has one of the highest unemployment rates in the nation, with approximately 48% of its youth unemployed. The rise in "educated unemployment," when young, educated persons are unable to find opportunities for productive employment, is perhaps the most concerning trend (Singh, 2016).

Every socio-economic activity in Kashmir has been adversely affected by the ongoing political uncertainty in general and the two-decade-long armed conflict in particular. Jammu and Kashmir has been under political turmoil for the past two and a half decades. Hundreds of thousands of priceless lives have been lost as a result of the chaos. When we look at the situation in Jammu and Kashmir, we see that not only irreplaceable lives have been lost, but other aspects of the state have also suffered significant losses.

14.4 Conclusion:

For a long time, political instability has been a reality in the state. This has a negative impact on the economy and people's lives as well as the people's future. Political unrest has an impact on industries like crafts, tourism etc. During the last three decades, the paradise on earth has been under the authority and influence of both terrorism and armed warfare, and hundreds of priceless lives have been lost. Aside from that, the state's economy has suffered a significant revenue loss.

Heavy industry is scarce in the state due to geographical constraints. The unemployment rate among employable youths is extremely high. Due to the state's civil unrest and militancy, no investor is prepared to invest in any economic venture in the state. Non-economic activities have eclipsed almost every aspect of the state economy. School, colleges, and universities remain closed for years at a time in a fragmented way, which has a direct impact on future generations' potential employment. Due to political instability, insufficient infrastructure, and climatic disadvantages, the state of Jammu and Kashmir is on the path of industrialization, although large-scale and heavy industries are not present in acceptable figures.

Only Micro, Small, and Medium Businesses (MSMEs) are expanding in this state. We discover that: (a) informal political instability (assassinations, guerilla warfare, strikes) has a direct adverse impact on economic development, whereas formal instability (e.g. cabinet changes and size, and constitutional changes) has an indirect impact on growth (through volatility); (b) financial development has a positive impact on economic growth; (c) informal instability effects are significantly larger in the short-run than in the long-run.

These findings have prompted a number of new questions, which we feel will help to motivate future research. Two related proposals are highlighted here: one on the role of finance and one on technique. In terms of the function of economics in the economic development process, our findings add to a huge body of previous research by demonstrating a strong, beneficial influence of financial development on long-term growth. The negative impacts of political instability on growth, on the other hand, may outweigh the benefits of economic progress. We find that different types of political instability have distinct effects on growth over different time frames, resulting in a substantial and somewhat resilient effect that appears to be highly powerful in relation to the benefits of economic development.

The need to combat the state's negative and conflict-prone identity by launching huge public awareness campaigns. Jammu and Kashmir shares borders with a number of nations, including Pakistan and China. If existing trade links are restored and new routes are opened, the state's industrial sector will benefit greatly. Growth of MSMEs can reduce skilled labour migration from J&K to other states, while increasing state gross domestic product (SGDP). Also extensive investigation into governmental rules and regulations, as well as the political environment in Kashmir, will generate good research ideas for the future.

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15. Capturing Benefits of Digital Transformation for Sustainable Urban Drinking Water Supply Management

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Abstract:

Internet of Things (IoT) offers easy access, analysis and application of digital information for better management of infrastructure and operations. Technological leverage provided by digital revolution must be twined with institutional restructuring in a new paradigm of redefined roles and engagements. Digital governance provides improved monitoring and response system to managers with continuous accessibility on specified data about infrastructure health. Potential of flexible deployment of various resources can be harnessed in drinking water service management for optimum productivity with digital boon. Managerial strategies should be built upon the contributions made by existing institutional legacy but the redundant practices must be done away simultaneously. Present institutional capacity must be made compatible to adopt innovations for better service delivery. In this paper an attempt has been made to outline the useful data which may be transformed into certain refined performance indicators (PI) to represent institutional capacities. A comparison of certain key PI has been made to show the relative strengths and weakness of system under different institutional arrangements. It further depicts how the streams of data flow can be useful in effective operations management for long term sustainability of urban drinking water services.

This evidence based research paper indicates useful data-flow for monitoring of urban water supply management. It further documents how the water supply managers can use such dynamic pool of data in terms of Performance Indicators. It paints scenario of existing water supply system using the PI. Further, a comparative analysis of existing institutional capacities has been done among three sets of service providers (operators), viz. Government, Private and Local bodies, using relevant PI. The study takes evidence from drinking water supply management in Rajasthan, the largest state of India, which has almost 60 percent geographical area covered by desert. The drinking water supply is dependent on both surface and ground water sources.

The analytical discussion leads through a comparison of selected zones operated by different operators on the specific PI. These PI pertains to Service Level (Liters per capita per day water availability to consumers, LPCD); Price paid by each consumer (INR per *month); Operating Ratio (O&M Cost in INR / Revenue realization in INR); Operational cost per unit of water supply (INR per cubic meter); and Number of personnel (staff required to cater per thousand consumer connections). The relevant data was collected on spread sheet monitored on-line. Kruskal – Wallis test and Mann-Whitney tests were deployed to examine the differentiation among the three institutional arrangements using Statistical Package for the Social Sciences (SPSS) Version 20 software. The results of statistical analysis are interpreted and discussed with their social, financial, institutional and technical implications. The study specifically identifies staff-strength (being the largest contributor of O&M cost) as an action-agenda for managers.*

The core strategic issues of pricing, employment and cost reduction in urban drinking water supply management can be effectively responded by integration of technological and institutional reforms rather than shifting institutional responsibilities. Institutional capacity building is a continuous process for system sustainability. The process suggested in the research paper for system evaluation using performance indicators helps to identify areas of managerial action. The dimensions of benefits of the reforms depend on level and pace of digital integration.

Keywords: *Digital Governance, Drinking Water Supply Management, Performance Indicators, Sustainable, Urban Drinking Water Supply Management*

15.1 Introduction:

Provision of affordable and safe drinking water for entire world is targeted in the Sustainable Development Goals (SDG)-6 (UN, 2015) by the year 2030.Various countries have shown commitment to this ambitious target by taking policy initiatives. The horizontal spread and vertical integration of collaborations for this objective are associated with diverse techno- economic activities. The SDGs further indicate capacity building through innovative activities in water and sanitation sector. While investment in urban infrastructure (e.g. water services) provides impetus to growth of an economy, engagement of work force with technological innovations for operation of drinking water services contributes directly in country’s Gross Domestic Product (GDP). It is estimated that the achievement of the SDG targets for water supply and sanitation sector the capital cost requirement would be 0.12 % of world GDP while for safe and sustained operation and maintenance the fund requirement would be 0.20% of global GDP (Hutton and Varughese, 2016). Policy decisions pertaining to water are complex due to dynamic role of subsidies, employment, institutes, resource constraints, public health, water demand, environmental concerns, technical inputs, financial resources etc. besides. All over the world this sector adjusting with institutional changes to seek better governance against the challenge of water scarcity. Earlier studies have suggested adopting holistic approach including system efficiency measures, technical, financial and administrative innovations for better governance. Advent of digital governance is also changing nature and engagement of traditional workforce with promotion of smart resource utilization. Viessman and Welty (1985), Frederiksen (1992) and Grigg (1996/2008) emphasized on Integrated Water Resources Management (IWRM) for establishing correct policies, viable political institutions, workable financing arrangements, self-governance and evolving institutional arrangements for effective management.

Public Private Participation (PPP) has also been observed by various researchers as an innovative mode of drinking water supply infrastructure management. Jensen (2017) observed that PPP has emerged as a promising operational mechanism in drinking water sector in past 25 years. Champions of *growth economy* seek structural reforms for pooling up PPP investments. Price (market) has been the dominant decision criterion during the past years which allowed market to govern all the strategies *but* the actual technical and administrative measures were left behind.

However, for sustainable governance contributions of all stake holders must be transparently integrated. The *growth paradigm* in urban drinking water supply sector could be redefined for better economic value by measuring the performance on certain indicators. The use of performance indicators has been endorsed by Marin (2007) and further used by Kristof De Witte and Marques (2010) in bench-marking of drinking water services. Recently, Feingold, Koop and Leeuwen (2018) suggested *Trends and Pressure Framework* for assessment of the sustainability of drinking water services. It suggests evaluating institutions as well as resources, considering the social, environmental and financial pressures. Similar approach was followed by Faure et.al (2017), through *Sustainability Assessment Framework for Scenarios*. The usefulness of the performance indicators for objective assessment of services was re-emphasized by Kumawat and Sharma (2019) while documenting the operational efficiency differentiation among government and private operators in urban drinking water supply management.

Predominant use of computers in last decade and subsequent internet accessibility in Indian water supply utilities gradually has helped to develop data base connectivity for diverse domains. It includes (but not limited to) various sub-domains pertaining to water resources, infrastructure assets, human resources, operations, finances, customer relationship etc. Internet of Things (IoT) offers real-time tracking of respective parameters at an unprecedentedly low cost. It provides a continuous, accurate and value added feedback mechanism for system components which makes managers more efficient.

Emerging technical advantages furnished by the *big data revolution* and integrated with economic efficiency measures (explicitly shown by performance indicators) will eventually empower the utility for better service delivery. However, the pace of utilization of the data remained quite slow in absence of appropriate data-flow intervention and limited documented evidences. Digitalized governance can pick the pace in managerial decision making with adequate acquaintance, participation and simplified interventions (Kloppenburg et.al, 2022).

In this paper usable data for water supply utilities has been highlighted by documenting the case from Rajasthan. The data reflects the water supply *scenario* to the water supply managers. The data was further refined into performance indicators. It has been exhibited that digital connectivity had facilitated effective and replicable monitoring. The impact of institutional change strategies has been critically examined on key performance indicators. Rajasthan is the largest state of India which has almost 60 percent geographical area covered by desert. A comparative analysis of existing institutional capacities has been done among three sets of service providers (operators), viz. Government, and Private and Local bodies using the specific performance indicators.

15.2 Critical Strategic Issues for Sustainable Drinking Water Services:

In this study the sustainability of existing institutional arrangements has been examined on following domains:

Sustainability of service = f (Social, Financial, Human resources)

15.2.1 Social Effectiveness of services:

The bench-marking of utility services endorsed by Government of India under the 14thFinance Commission sets targets for drinking water services. Those indicators can become the foundation for further improvement. Among them, Service level, Cost and Price are the important performance indicators which have been included in the study. Each stakeholder of drinking water should be educated about the available choices in objective terms to empower them for a sustainable solution. Continuous feedback from stakeholders is also to be ensured. This study deploys use of the performance indicators in the analysis for easy communication about the state of affairs to the stake-holders.

15.2.2 Financial Effectiveness of Services:

Operation and Maintenance cost recovery has been propagated as the general norm for the water supply services. Dublin Water Principles (1992) claimed ‘‘*water as an economic good*’’ for the first time. Further, Rogers’s et al (2002) strongly championed for full cost pricing in order to sustain the services. In contrast, Al Jayyousi (2007), Branco and Henriques (2012) were critically against the commercialization of water considering it as a basic human need. According to World Bank:

“*When a utility cannot cover its costs, service will suffer. Utilities will need to cut back on essential expenditures such as chemicals for water treatment, replacement of pumps for reliable service, expansion of network for new customers*”. Pricing can be used for controlling the use of the water resource but consumers require adequate information about costing and pricing decisions. The financial aspects in this study have been examined on O&M cost per unit of water supply and Operating ratio.

15.2.3 Human Resources Effectiveness for the Services:

Globally, most of the urban water supply utilities are catered by public sector. The transition from government to private sometimes happens directly and often routed through indirect institutional changes. The water supply O&M of the selected towns were handed over to Urban Local Bodies (ULB) in Rajasthan. Government looks forward for handing over of the services on Public Private Participation (PPP) mode in the next phase of the project. Privatization has often fails to communicate productivity and employment in objective terms. The term "Capacity Development and Institutional Support" has also been mentioned in the Asian Development Bank (ADB) loan agreement (ADB, 2009) for institutional restructuring, strengthening and training of the ULBs. Bhaduri et al. (2015) observed that the managerial decision making suffered badly due to insufficiency of institutional data, its incoherency and scattered nature.

Need of availability of critical data was re-emphasized. When the technological factors are almost similar in a global world, downsizing among organizations has remained rather a continuous phenomenon but Cascio (2002) reported that better productivity was not guaranteed with lesser number of staff. Pfeffer (2009) pointed out that the economic evaluation had become dominant managerial decision logic which failed to account the social and individual costs. However, negligent government and over sighted regulations were reported as the important factors for that lacuna against the human resources. This inconsistency can be done away with better explanation through comprehensive data analysis as demonstrated in this study.

15.3 Methodology:

It has been discussed that sustainability of services can be objectively explained by the use of performance indicators in urban drinking water supply. Documentation of identified data on which digital advantage is applied is presented for the state drinking water supply services (Table-15.2). Further, simple analytical outcome from the identified data is enunciated in terms of respective performance indicators (Table-15.3) for general understanding and for triggering managerial interest. There were 5 performance indicators deployed in the study for specific examination of the hypotheses. Data has been collected from 9 selected towns which have adopted institutional change strategies for this purpose. This study deploys Kruskal- Wallis test and cross-tabulation analysis to review the impact on social, financial and human resources characteristics of urban drinking water services, as discussed in the previous section. Further, the social concerns were studied mainly on 2 performance indicators (metric variables), namely: Service Level and Price. Similarly, the concerns of the catering organization (across the institutional arrangements) have been analyzed on 3 performance indicators (metric variables) pertaining to cost and staff strength, namely: O&M cost per unit of water supplied, Proportionate cost of maintaining the staff and Staff strength.

15.3.1 Hypotheses:

Following null hypotheses have been examined in the study:

a. $H_0 1$ = Staff has no significant impact on the operating ratio of drinking water supply services.
b. $H_0 2$ = Performance indicators (Service level, price, cost and staff) do not differ significantly among the 3 institutional arrangements.
c. $H_0 3$ = Staff strength for O&M of drinking water supply service delivery shows parity with global or national norms (pattern), across the 3 institutional arrangements.

15.3.2 Data collection:

The data for showcasing the usable digital information for general representation of drinking water scenario has been taken from 24 urban which justifies the Yamene's sample size for10% level of significance. Quota sampling technique has been used. The number of representative sample zones is 71 out of a total 129 zones which is 55.04 % of the selected zones. The detail of sampling is presented in the **Table-15.1.**

The data has been collected for the year 2020 and the average metric values of various variables have been considered in the analysis.

Table-15.1: Sampling plan for data collection

Attribute	Unit	Census				Sample			
		Government	Private	ULB	Total	Government	Private	ULB	Total
Zone	number	93	28	8	129	48	15	8	71

15.4 Observations:

The digitally accessed data is summarized in **Table-15.2**.

Table-15.2: Water supply Data for Rajasthan (2020)

S. No.	Town (Name)	Population(Number)	HouseholdConnections (Number)	Functional Meters (Number)	Water productionperannum (ML)	for Water Quantity per annum (ML)	O&M Expenditure per annum (millionINR)	Revenue Assessment per annum (millionINR)	Revenue Realizationperannum (millionINR)	Annual Collection of Water Quality Samples (Number)
1	Ajmer	615606	146820	80508	45384	37002	993.2	335.4	220.4	7048
2	Alwar	407395	37068	4879	14713	11223	389	77.44	53.72	5032
3	Banswara	120222	12724	1548	8483	3834	125.1	28	20.64	2528
4	Baran	139831	12306	0	8048	3778	57.5	24.76	8.06	3174
5	Bharatpur	303840	28617	7	18484	7688	377.9	63.96	49.28	8742
6	Bhilwara	448686	52947	11	31375	12684	517.5	83.14	70.96	12096
7	Bikaner	757151	103355	26368	47505	32580	520	207.8	151.4	6804
8	Bundi	122486	17948	4619	13841	4115	109.2	44.54	28.08	4342
9	Chittorgarh	142748	15034	0	11968	2921	119	21.62	18.12	4474
10	Churu	135311	21800	574	6749	4919	232	34.14	18.36	3734
11	Dholpur	159588	9742	0	6577	2511	121.8	18.82	14.66	4966
12	Hanuman-garh	191461	26763	0	7406	7090	107.8	38.94	23.76	3590
13	Jaipur	3777665	420537	315070	202403	122886	3308	1491	964.6	17182
14	Jhalawar	120674	15025	57	6464	3653	76.32	29.4	21.54	4706
15	Jhunjhunu	140193	20588	3160	4749	4622	139.2	32.82	14.46	4760
16	Jodhpur	1364385	172975	58750	96601	62827	1697	796.2	527	9492

S. No.	Town (Name)	Population(Number)	HouseholdConnections (Number)	Functional Meters (Number)	Water productionperannum (ML)	for Water Quantity per annum (ML)	O&M Expenditure per annum (millionINR)	Revenue Assessment per annum (millionINR)	Revenue Realizationperannum (millionINR)	Annual Collection of Water Quality Samples (Number)
17	Kota	1272223	140638	20854	153457	64159	718.7	609.8	246.3	8632
18	Nagaur	131116	17964	4	7373	5059	129.4	33.04	21.46	3954
19	Pali	281889	39374	22110	15564	6977	111.3	54.96	50.1	6934
20	SawaiMadhopur	141612	18669	2222	5738	4530	124.8	17.9	9.64	4604
21	Sikar	290125	29851	12109	15388	7340	374.4	48.5	30.54	1770
22	Srigangan-agar	296585	38144	3946	17535	12337	111.9	105.3	73.56	3550
23	Tonk	188044	14825	1452	9308	4499	161.2	31.2	19.44	3412
24	Udaipur	560228	79433	11199	35208	20866	582.4	219	165.3	8274

Source: Annual report, Rajasthan Urban Infrastructure Development Project (RUIDP, 2020)

After accessing the data for a considerable period of time, this digital information may further be synthesized by managers into Performance indicators which reflect techno-socio-financial status of drinking water supply services, as depicted in **Table-15.3**.

Table 15.3: Performance indicators for Water supply services in Rajasthan

S. No.	Town (Name)	Coverageof populationwith piped water supply(%)	Per capitaper day supply of water(liter)	Extent of functional metering(%)	O&M Expenditure(INR per cum)	O&M cost recovery(%)	Non-revenue water(%)	Average price per connection(INR)	amples taken per 1000 ML (Number)	Annual failureofquality Samples(Number)
1	Ajmer	78.9	162	53.49	21.88	33.8	18.3	1471	155	1
2	Alwar	46.8	84	12.33	26.44	19.9	23.9	1642	342	1
3	Banswara	48.6	163	11.85	14.75	22.5	54.7	1870	298	0
4	Baran	44.6	134	0	7.14	43.1	52.9	1785	394	0
5	Bharatpur	51.9	136	0.02	20.45	16.9	58.3	1481	473	0

S. No.	Town (Name)	Coverageof populationwith piped water supply(%)	Per capitaper day supply of water(liter)	Extent of functional metering(%)	O&M Expenditure(INR per cum)	O&M cost recovery(%)	Non-revenue water(%)	Average price per connection(INR)	amples taken per 1000 ML (Number)	Annual failureofquality Samples(Number)
6	Bhilwara	57.2	160	0.02	16.49	16.14	59.5	1272	386	0
7	Bikaner	76.2	141	24.11	10.95	40	31.2	1215	143	1
8	Bundi	76	263	25.08	7.89	40.8	70.2	2321	314	4
9	Chittorgarh	49.6	195	0	9.95	18.2	75.5	1309	374	1
10	Churu	99.8	116	2.56	34.37	14.7	26.9	1353	553	0
11	Dholpur	36	95	0.06	18.52	15.5	61.7	1532	755	0
12	Hanumangarh	70.3	90	0	14.55	36.1	4	1149	485	0
13	Jaipur	56.6	121	69.22	16.34	45.1	39.1	2339	85	1
14	Jhalawar	61.9	123	0.36	11.81	38.5	43.3	1448	728	2
15	Jhunjhunu	86.9	78	14.81	29.32	23.6	2.4	1285	1002	2
16	Jodhpur	68.2	140	32	17.56	46.9	34.8	2050	98	6
17	Kota	52.7	277	14.32	4.68	84.8	58.1	2624	56	0
18	Nagaur	78.8	129	31.2	17.55	25.5	31.2	1443	536	8
19	Pali	73.4	64	51.89	7.15	49.4	55.1	1024	446	3
20	SawaiMadhopur	69.9	94	11.75	21.74	14.4	20.8	939	802	4
21	Sikar	65.5	124	39.03	24.33	15.9	52.2	1313	115	15
22	Srinagar	62.1	135	9.15	6.38	94.1	29.5	1573	202	1
23	Tonk	44.8	114	9.57	17.32	19.4	51.5	1841	367	0
24	Udaipur	67.5	140	13.8	16.54	37.6	40.6	2039	235	0

Source: Annual report Rajasthan Urban Infrastructure Development Project (RUIDP, 2020)

The data collected for the three different institutional arrangements, viz. Government, and Private and Local bodies on the selected performance indicators is presented in **Table 15.4**.

Table 15.4: Institutional comparison of sustainability based on Performance indicators

S. No.	Zone	Social Indicators		FinancialIndicators			Human Resource Indicators	
		LPCD (Liter)	Price (INR)	Operating Ratio	Cost per KL (INR)	Ratio of Staff salary to total cost (%)	Ratio of existing Staff to Cadre strength (%)	Staff/1000 Connections (Numbers)
1	Gov_1	88.63	200.15	1.56	6.23	65.19	24.67	3.69
2	Gov_2	78.69	210.20	2.96	8.25	77.19	28.90	7.74
3	Gov_3	67.30	209.80	2.87	7.82	73.64	24.75	7.48
4	Gov_4	64.79	211.08	2.78	8.51	66.27	26.25	7.34
5	Gov_5	76.71	212.02	15.36	13.60	80.90	27.51	46.08
6	Gov_6	72.94	208.17	18.64	14.76	82.58	20.12	56.94
7	Gov_7	67.66	215.20	3.22	6.35	56.03	19.69	7.53
8	Gov_8	60.71	206.13	4.53	10.37	84.62	23.53	12.70
9	Gov_9	69.49	210.53	6.78	11.63	84.05	28.4	19.29
10	Gov_10	70.90	209.46	1.90	5.60	65.66	17.65	4.11
11	Gov_11	90.09	262.71	3.11	17.44	95.38	34.12	3.10
12	Gov_12	78.36	258.26	3.92	22.75	96.44	33.70	4.22
13	Gov_13	75.36	255.72	3.92	21.99	96.30	32.20	4.38
14	Gov_14	92.72	259.07	3.76	18.96	95.65	36.20	3.96
15	Gov_15	125.23	726.81	1.99	12.27	78.49	21.60	16.93
16	Gov_16	110.32	742.16	1.34	9.80	74.53	24.24	10.56
17	Gov_17	107.03	726.74	2.83	17.56	79.55	26.53	26.65
18	Gov_18	100.25	768.57	2.76	19.95	82.90	15.86	28.10
19	Gov_19	100.10	758.84	0.95	6.89	59.27	39.09	4.62
20	Gov_20	70.32	731.78	1.43	16.86	76.86	15.29	13.43
21	Gov_21	66.00	446.96	2.13	10.69	49.92	17.10	5.60
22	Gov_22	66.53	440.68	10.55	36.78	86.63	41.54	54.20
23	Gov_23	71.92	446.72	2.54	10.03	42.66	26.37	6.06
24	Gov_24	96.09	446.50	4.44	13.47	57.26	53.09	15.14
25	Gov_25	85.55	445.84	3.16	13.41	56.96	18.75	10.72
26	Gov_26	83.07	447.03	5.14	14.70	63.87	28.51	18.73
27	Gov_27	73.85	150.84	2.22	5.03	36.56	51.43	1.93
28	Gov_28	86.40	150.84	4.76	11.63	66.27	40.34	8.18
29	Gov_29	64.27	150.84	3.38	7.41	56.93	53.16	4.56
30	Gov_30	68.61	150.84	2.63	11.33	70.64	16.07	4.49
31	Gov_31	88.39	173.56	2.33	8.93	72.46	27.51	4.25
32	Gov_32	88.47	310.70	2.08	7.80	75.72	12.91	5.46
33	Gov_33	91.37	310.04	1.51	8.75	79.49	33.76	4.08
34	Gov_34	104.24	297.34	1.44	5.96	64.87	53.16	3.14
35	Gov_35	115.84	310.48	1.48	5.69	68.17	16.07	3.38
36	Gov_36	117.82	250.52	5.24	8.79	49.73	27.51	8.99
37	Gov_37	64.22	249.63	1.98	6.29	32.26	19.70	2.13
38	Gov_38	85.63	250.32	3.56	8.39	44.62	34.38	5.81
39	Gov_39	101.18	109.38	5.68	10.37	66.76	25.58	4.51
40	Gov_40	65.89	109.37	6.38	10.43	66.92	19.69	5.17
41	Gov_41	127.13	109.41	9.67	10.09	65.94	27.15	7.69
42	Gov_42	107.30	109.37	18.53	15.88	76.00	52.91	18.48
43	Gov_43	77.28	205.47	1.50	4.50	63.19	33.09	2.83
44	Gov_44	76.77	205.41	1.51	4.37	68.99	25.00	2.86
45	Gov_45	74.89	227.82	1.26	5.46	69.27	33.33	3.04
46	Gov_46	76.63	214.70	2.36	6.63	73.44	54.24	5.63

S. No.	Zone	Social Indicators		FinancialIndicators			Human Resource Indicators	
		LPCD (Liter)	Price (INR)	Operating Ratio	Cost per KL (INR)	Ratio of Staff salary to total cost (%)	Ratio of existing Staff to Cadre strength (%)	Staff/1000 Connections (Numbers)
47	Gov_47	68.28	214.69	4.43	14.34	90.98	32.24	12.27
48	Gov_48	91.36	214.65	1.92	5.15	65.21	33.70	4.20
49	Pvt_1	107.08	173.57	1.98	4.06	39.36	13.26	1.07
50	Pvt_2	83.23	173.57	1.07	1.56	17.69	16.67	0.54
51	Pvt_3	74.55	173.56	1.05	2.06	20.08	12.50	0.56
52	Pvt_4	108.40	312.92	1.75	2.34	24.15	16.67	2.98
53	Pvt_5	91.04	313.73	1.70	2.54	26.93	12.50	3.05
54	Pvt_6	109.25	246.09	1.36	4.48	1.56	20.00	0.52
55	Pvt_7	89.31	296.90	1.39	1.10	30.75	13.26	0.32
56	Pvt_8	106.01	244.80	1.84	1.41	42.75	16.67	0.28
57	Pvt_9	97.10	213.15	1.75	8.07	66.25	12.5	1.36
58	Pvt_10	108.53	213.15	1.87	3.17	30.56	25.00	0.86
59	Pvt_11	82.39	213.15	1.68	2.30	19.88	33.33	0.42
60	Pvt_12	89.20	213.15	1.34	3.52	12.09	20.00	0.40
61	Pvt_13	93.67	213.15	1.40	6.01	20.04	12.50	1.04
62	Pvt_14	103.79	213.15	1.06	4.07	25.90	16.67	0.94
63	Pvt_15	79.79	213.15	1.78	5.35	16.63	16.67	0.72
64	Ulb_1	158.54	107.97	8.88	23.07	29.72	53.42	4.30
65	Ulb_2	81.69	87.78	8.81	32.86	28.68	60.42	2.76
66	Ulb_3	210.81	278.03	1.81	8.28	24.42	63.89	2.10
67	Ulb_4	105.56	80.60	18.40	31.63	22.82	43.28	3.36
68	Ulb_5	136.17	119.27	5.05	14.23	52.17	60.17	3.68
69	Ulb_6	132.35	138.92	5.05	17.08	42.99	48.75	4.18
70	Ulb_7	106.40	61.68	13.41	26.90	30.73	47.83	1.99
71	Ulb_8	135.14	215.99	1.75	9.49	51.97	64.53	2.60

15.5 Results:

Observations are summarized as follows:

a. There is an average expenditure on operation and maintenance of urban drinking water supply services is INR 16.42 per kiloliter. The average recovery of operation and maintenance cost is only 33.86 % across the state, with the lowest value of 14.4 % in one of the town. There is very high Non-revenue water (NRW), which represents water-loss. The average value of NRW is 41.48 % in the urban areas of the state.
b. There is a provision of review of Cadre strength and creation of posts in the policy but no fresh recruitment (nor any training) for past 20 years to fill the vacancies of technical staff.
c. At present the use of digital data for planning, monitoring and controls is very less. This may be attributed to feeble policy thrust and lack of digital data compatibility.

The statistical analysis results are following:

a. The Staff (per thousand connections) (M= 7.9213, SD= 11.1242) and Operating Ratio are related (M= 3.9096, SD= 4.2445). The relationship is observed as positive, strong in strength and statistically significant as:

($\boldsymbol{r}(71) = .573$, $p<.001$).

Thus, the null hypothesis $\boldsymbol{H_0 1}$ is rejected and alternatively it is suggested that Staff plays a significant role in the sustainability of operations of the drinking water services.

b. The Kruskal – Wallis test suggests significant differences (Asymp. Sig. < .001) in all the 5 performance indicators among the 3 institutional arrangements as presented in **Table -15.5.**

Table 15.5: Mean ranks for performance indicators (Kruskal-Wallis Test)

Indicator	LPCD		Price		Cost		Staff salary		Staff strength	
Institution	***M (SD)***	**Mean Rank**	**Mean**	**Mean Rank**	**Mean**	**Mean Rank**	**Mean**	**Mean Rank**	**Mean**	**Mean Rank**
Government (N=48)	84.4288 (17.3727)	**29.54**	306.9498 (189.8217)	**39.49**	11.2477 (6.0431)	**40.56**	69.8588 (14.9767)	**46.71**	29.7623 (11.2236)	**37.83**
Private (N=15)	94.8893 (11.7864)	**43.80**	228.4793 (46.5578)	**35.90**	3.4693 (1.9267)	**9.93**	26.3080 (15.0736)	**11.67**	17.2133 (5.7165)	**14.60**
ULB (N=8)	133.3325 (39.3048)	**60.13**	136.2800 (13.8963)	**15.25**	20.4425 (9.6046)	**57.50**	35.4375 (11.9010)	**17.38**	55.2862 (8.0678)	**65.13**

Thus, following alternative hypothesis is adopted:

***Ha2* =**Performance indicators (Service level, price, cost and staff) significantly differ among the 3 institutional arrangements. The result of Mann-Whitney test to compare means of the performance indicators is summarized in the **Table 15.6**.

Table 15.6: Comparison of means among institutional set-ups for performance indicators

Indicator	LPCD			Price			Cost			Staff salary			Staff strength		
Institution	***U***	***z***	***p***	***U***	***z***	***p***	***U***	***z***	***p***	***U***	***z***	***p***	***U***	***z***	***p***
Govt.& Private	205.0	-2.501	.012	320.50	-.638	.524	29.0	-5.342	.00	23.00	-5.438	.00	99.00	-4.214	.00
Govt.& ULB	37.0	-3.629	.00	64.00	-2.998	.008	80.0	-2.623	.007	15.00	-4.144	.00	19.00	-4.51	.00

d. International Benchmarking Network for Water and Sanitation Utilities (IBNET, 2011) provides that the number of water supply O&M staff per 1000 number of connections was **3.26.** Government of India and Asian Development Bank (Um, 2007) reports a mean value of **7.4**. Government of India does not specify any benchmark for staff. The observation on staffing, in this study is presented in **Table 15.7**.

Table 15.7: Comparison of staff per thousand consumer connections

Average of Indian cities (2007)		Government		Private		ULB	
Average numbers	**ange of staff numbers**	**Average numbers**	**ange of staff numbers**	**Average numbers**	**ange of staff numbers**	**Average numbers**	**ange of staff numbers**
7.4	0.4-20.7	10.88	1.93-56.94	1.0	0.28-2.98	3.12	1.99-4.30

Though the mean value of staffing observed in the study (7.92) is quite near to the Indian mean value (7.4), the Staffing for O&M of drinking water supply service delivery across the 3 institutional arrangements does not reflect parity with global median value (3.26) or national norms, hence the observation suggested to adopt following alternative hypothesis: Ha3 = Staff strength for O&M of drinking water supply service delivery does not show parity with global or national norms (pattern), across the 3 institutional arrangements in Rajasthan.

15.6 Discussion:

Drinking water sector collects some digital information but the piecemeal data is underutilized for effective managerial decision making. There is a transition in the ownership of services from government to local bodies, public private partnerships and too corporate. The institutional boundaries are diminishing very fast. The impact of the institutional factors has been observed on performance indicators pertaining to the service. The Mean (and Range) Operating ratios for government, ULB and private zones were **4.17** (range 0.95 to 18.64), **7.90** (range 1.75 to 18.40) and **1.53** (range 1.05 to 1.98) respectively with high degree of variations. It motivated to further scrutinize the cost aspect.

It was found that staff salaries constituted (as an average 56.78 %) the major proportion of O&M cost, followed by power expenses, sundry repairs and chemicals. The strong correlation of Staff strength with Operating ratio indicates for taking initiatives in optimization of staff strength through effective strategies. The average staffing in the Rajasthan state matches with Indian average of 7-8 persons.

However, more scientific method for analysis may be based on the Cadre strength. It is a good engineering practice to equip water supply systems with adequately trained and quantum of staff as per cadre strength norms. It was observed that the system was working with inadequate staff, as the average availability of staff was just 29.98 % of the staff required as per cadre strength norms, across the institutional set-ups. Digital data can facilitate exhaustive job analysis and required job description to make the services techno-economically sustainable. Technological reforms are essential to facilitate digital governance.

These reforms may include use of: Supervisory Control and Data Acquisition (SCADA), Data accessibility by Global System for Mobile Communication (GSM), Global Positioning System (GPS), water quality mapping using Geographical Information System (GIS), etc.

15.7 Conclusion:

Potential of abundant benefits of digital governance could not be tapped by drinking water supply utilities in absence of acquaintance about relevant data and scanty documentation of interventions. Institutional, financial and social sustainability can be effectively evolved within the system if adequate emphasis is given to digital governance. This evidence based study presents comprehensive analysis of sustainability. It demonstrates practical interventions for digital governance using performance indicators which can facilitate improved water supply services.

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16. Digital Citizenship Behavior and Psychological Well-Being: A Review

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Abstract:

This article focused on the relationship between psychological well-being and digital citizenship behavior. With the use of digitalization in every sphere of work, like banking, commerce, communication, work from home, etc., people are becoming dependent on ICT (Giles, 2003). For the year 2020, it proved to be a boon with COVID-19 around (Ali, 2020; Dhawan, 2020). People were connected online in the period of lockdown; online learning was adopted by the educational institutions, and social networking sites were helpful in controlling the health-related tension (Vargo, Zhu, Benwell, & Yan, 2021). The relationship was explored theoretically based on the literature. The present-day world is dependent on technology and media for most of its work, whether it be communication, health, commerce, education, or any other. We open our eyes, and it is all technology around us. We are present digitally 24x7. This is disturbing our lives with evidence of psychological problems like anxiety, depression, suicidal ideation and behavior, cybercrimes, physical health problems, etc.

Well-being is at risk. On the other hand, digital citizenship behavior puts forth the right way to behave online. It can strengthen the psychological well-being (proposed by Ryff, 1989) in the digital world and prevent the individuals to be the victims of digitalization. The article indicated towards the positive relationship between psychological well-being and digital citizenship behavior in the field of academics, to be tested empirically.

Keywords: *Psychological well-being, Digital Citizenship behavior, Academics*

16.1 Introduction:

With the use of digitalization in every sphere of work, like banking, commerce, communication, work from home, etc., our daily activities are increasingly becoming dependent on digital activities. People are becoming engrossed in using ICT (Giles, 2003). For the year 2020, it proved to be a boon with COVID-19 around (Ali, 2020; Dhawan, 2020). People were connected online in the period of lockdown; online learning was adopted by the educational institutions, and social networking sites were helpful in controlling the health- related tension (Vargo, Zhu, Benwell, & Yan, 2021). Moreover, adoption of ICT has enabled youngsters to create profiles online, being social online, and communicate using digital technology. The society has become boundary- less.

On the one hand, this has increased participation and satisfaction among youngsters related to their social life, but the stress, information overload among them is increasing. This is influencing their mental health, psychological well-being (Bano, Cisheng, Khan, & Khan, 2019). At the work place, the pressure has increased for all to learn and perform digitally, and also maintain their performance in sync with digitalization. With respect to this, the study tried to explore the literature for a relationship between rightful use of technology and media and psychological well-being. The rightful use of technology and media has been defined in terms of Digital Citizenship behaviour. The concepts have been described in the following sections.

16.2 Psychological Well-Being:

As opposed to the pathology centered model of psychology, the Positive psychology brought back into focus the positive aspects of mental function and perspectives on well-being (Seligman & Csikszentmihalyi, 2000). Well-being is used interchangeably with happiness, health, welfare, security, safety and associated with psychological well-being, subjective well-being (Amichai-Hamburger, 2009; Reinecke & Oliver, 2017). The happiness index of a nation was calculated with objective measures of life circumstances or national statistics like income, age, occupation, etc. But it was found that these factors alone do not provide the impression of a person's well-being (Baumgardner & Crothers, 2015). Ratings to happiness, experiences, and satisfaction with life were found to be critical elements of well-being (Csikszentmihalyi, 1999; Diener, 1984; Ryff & Keyes, 1995).

Well-being is described in two forms – hedonic and eudemonic. The hedonic basis of well-being refers to subjective well-being as in terms of positive and negative affect and life satisfaction (Diener, 1984; Diener, Larson, Levine, & Emmons, 1985). Here, '*happiness'* became the parameter of well-being, which is an affective component. This explanation seemed to focus on measuring '*happiness'*, which was defined in terms of positive and negative affect. Positive affect referred to answers to questions/statements of positive functioning (e.g. feeling good/happy on accomplishing anything); negative affect referred to answers to questions/statements of negative functioning (e.g. feeling sad or upset when something negative happens) (Baumgardner & Crothers, 2015). The other dimension in this model is life satisfaction. This is the cognitive component where the person judges if he is satisfied of his life (Pavot & Diener, 2009).

The explanations of well-being were found to be insufficient. Also, the work '*happiness'* was translated from the Greek work '*Eudaemonia'*, which did not coincide with the meaning being developed in hedonism. Eudaemonia meant 'the feelings accompanying behaviour in the direction of, and consistent with, one's true potential (Ryff, 1989; Waterman, 1993). The eudemonic view explains well-being or happiness deriving from optimal functioning, positive mental health and flourishing (Baumgardner & Crothers, 2015; Diener, 2000; Reinecke & Oliver, 2017; Ryan & Deci, 2001; Ryff, 1989). It has been found in studies that hedonic happiness can be identified by the feeling of relaxation, being excited, content or happy and losing track of time and forgetting personal problems. In contrast, the eudaemonic view is a feeling of happiness derived out of excellence (Cummins, 2018; Reinecke & Oliver, 2017; Waterman, 1993).

Psychological well-being model developed by Ryff and her colleagues (Ryff & Keyes, 1995; Ryff & Singer, 1998) is based on human strengths, personal striving, and growth (Baumgardner & Crothers, 2015; Reinecke & Oliver, 2017). The psychological well-being as conceptualized by Ryff (1989) is measured using six sub-scales – self-acceptance, positive relations with others, autonomy, purpose of life, and personal growth. The six sub-scales are described as (Baumgardner & Crothers, 2015) –

- *Self-acceptance*: positive attitude towards oneself
- *Positive relations with others*: Warm, satisfying, and trusting relationship with others
- *Autonomy*: Feel comfortable with self-directions and internal standards
- *Environmental mastery*: Feel competent and able to manage complex environment
- *Purpose of life*: Feeling life has meaning and purpose
- *Personal growth*: Continued development and effectiveness with openness to new experiences

In short, these are feelings of challenge, competence and effort, and opportunity for personal growth and skill development (Waterman, 1993). With the rise in the technological advancements, the different forms of media can be seen encircling the present-day man. From waking up to getting ready for school or work; commuting and performing at workplace; enjoyment, entertainment, and games; commerce and communication; health and wellness – no function of human is left untouched by technology (Amichai-Hamberger, 2009; Giles, 2003; Reinecke & Oliver, 2017). The consequences of intrusion of media and technology into the lives of mankind are constantly under lens. The journey of studies on the consequences have covered long way – from focus on negative consequences to positive effects and also, optimal functioning (Amichai- Hamberger, 2009; Dill, 2013; Giles, 2003; Reinecke & Oliver, 2017).

The media and technology are being used as a medium to gain hedonic and eudemonic happiness/well-being. That is, these can serve short term as well as long term purposes. The hedonic facets include situational mood repair and arousal optimization. Zillman, through the Mood Management Theory (MMT), explained that people try to avoid or alter negative emotional states and be in positive emotional state for longer period of time (Zillman, 1988). Thus, it can be asserted that people use media to modulate their mood (Nabi & Prestin, 2017; Rodman & Fry, 2009). People turn towards technological and media stimulations to keep aside the hassles and stress of life for some time, to relax and rejuvenate, like watching their favorite show etc. (Amichai-Hamberger, 2009; Reinecke & Oliver, 2009). These experiences extended to eudemonic well-being – experiences of meaning in life, purposeful living, and personal growth. Environmental mastery enhances well-being (Ryan, Rigby, & Przbylski, 2006; Reinecke & Oliver, 2017). This is also applicable in terms of technology and media – mastering an app or game could enhance self-image, and thus, the psychological well-being. This implies that participating in such leisure activities that contribute to building mastery, relationships, identity on digital platform promotes well-being.

The stimulations produced by the technology and media for well-being may turn into producing negative effects for self and others. The instant relaxation and happiness gained may lead to dependence upon the media for relieving stress every time.

Instances of potential harm to others digitally like, cyber crimes, cyber bullying, etc. are evidence to seeking such stimulation and happiness (Giles, 2003). The hedonic happiness may not always be gained by positive means (Ryff, 1989). The eudemonic happiness may lead to being workaholic; chances of being workaholic have increased due to overlap of leisure and work time due to technological interventions. Thus, one must keep an eye that technology enhances our well-being, not harm them. In this process, the next section on Digital Citizenship behavior presents comprehensive model to enhance our psychological well-being.

16.3 Digital Citizenship Behavior:

Digital Citizenship behavior pertains to the online activity for longer period, use of technology effectively and properly, to get connected to the issues on local, national, or global platforms as a part of political, social, civic or workplace duty (Ghosn-Chelala, 2019; Isman & Gungoren,2014; Mossberger, Tolbert & McNeal, 2008; Ohler, 2010; Ribble, 2008, 2011). It also refers to the appropriate and responsible behavior with regards to use of technology in any context (Ribble, 2008, 2011; Mossberger et.al, 2008).

In the present world, the role of Digital Citizenship extends to all age groups. The activities can be regarded as –*"...extending the range of citizenship required in real life to that of digital life through appropriate communication and decision-making process*." (Kim & Choi, 2018)

Since the outbreak of the COVID-19 pandemic, the ever-growing charm of using internet by all age groups suddenly became the need of the hour. People locked in their homes, doing work from home, getting started with online classes by schools and colleges, enlarging the scope of online education, a boom in e-commerce and online business, widespread online consultation for health and wellness, and enhancement in video and audio calls, i.e., any form of communication – are the significant uses of information technology during this period. The digital world is not left untouched of difficulties. An acquaintance with the ease in use of online tools is taken as advantage by miscreants to cause problems for others like stealing, harassing, hacking, etc. It also includes risks like self-harm, pornography, violent or hateful contents, bullying, trolling, etc. (Giles, 2003; Hasebrink, Livingstone & Haddon, 2008; Levy, 2017; Livingstone & Helsper, 2010).

The advancement of the information technology requires mindful and trained nationals for its effective use. The digital citizenship behavior is one such way (Mossberger et al. 2008; Ribble & Bailey, 2007). Different frameworks have been proposed for digital citizenship behavior. The most famous of all the frameworks is the one given by Ribble and Bailey (2007). This framework consists of nine components of digital citizenship behavior – Digital Access, Digital Commerce, Digital Communication, Digital Literacy, Digital Etiquette, Digital Law, Digital Rights and Responsibilities, Digital Health and Wellness, and Digital Security. Under the Digital Citizenship goals for the 21st Century, Ribble and Bailey (2007) categorize these areas into – respect (etiquette, access, law), educate (communication, literacy, commerce) and protect (rights and responsibilities, safety / security, health and wellness). This framework has been found to be helpful in educational context, in educating the preventive measures to students. It pertains to:

a. **Digital access**: *Full electronic participation in society*
b. **Digital commerce**: *Electronic buying and selling of goods*
c. **Digital communication**: *Electronic exchange of information*
d. **Digital literacy**: *The capability to use digital technology and to know when and how to use it*
e. **Digital etiquette**: *The standards of conduct expected by other digital technology users*
f. **Digital law**: *The legal rights and restrictions governing technology use*
g. **Digital rights and responsibilities**: *The privileges and freedoms extended to all digital technology users and the behavioral expectations that come with them*
h. **Digital health and wellness**: *The elements of physical and psychological well- being related to digital technology use*
i. **Digital security**: *The precautions that all technology users must take to guarantee their personal safety and the security of their networks*

(Ribble, 2008)

Mossberger and others (2008) examined the following three aspects of online participation –*"…the inclusion in the prevailing forms of communication through regular and effective use; the impact of internet use on the ability to participate as democratic citizens; and the effects of the internet on the equality of opportunity in the marketplace."*

That means frequent use of information technology in communication, in democratic participation in political and social issues, and for economic gains. Kim and Choi (2018) summarized the components of Digital Citizenship as cognitive, emotional and behavioral factors. The *cognitive* components include communication ability, autonomous judgement ability, rational decision-making ability and critical thinking ability. The *emotional* factor comprises of human dignity, tolerance, community consciousness, responsibility, and care. The *behavioral* factor consists of active participation, autonomous regulation, compliance with laws and regulations.

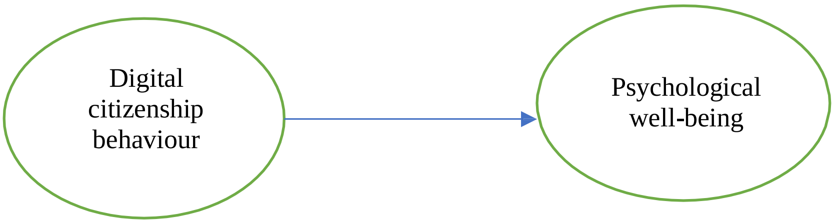
The later frameworks focus on the youth whose civic engagement and political participation in the changing context is also an issue among others influencing their well-being. The youth play an active role in the development of the nation. The empowered status of youth digitally will enhance their citizenship behaviour at all platforms in the present times (Loader, 2007). The focus of Digital Citizenship is largely on social inclusion in this information age rather than the divide (Mossberger et.al. 2008; Ribble, 2011; Deep, 2018). In India, Digital India Mission is one such initiative taken by the Government of India, working on the inclusion of all to empower the country on the digital platform (Deep, 2018), making people aware of the rightful use of internet.

16.4 Discussion:

This article aimed to theoretically establish the relationship between digital citizenship behavior and psychological well-being in the digital world. In the literature, it has been found that with the widespread use of internet and information technology, there are both advantages and disadvantages. The aim is to find an overall approach towards mitigating the harms occurring with the digitalization and optimizing the potential of humans for sustainability at the global platform. One step towards it is in the form of Digital Citizenship. The digital citizenship behaviour can leverage our understanding of digitalization.

It can help to empower the citizens at all levels and enhance their well-being (eudemonic happiness, particularly). It can be shown as below:

There are various models of digital citizenship behaviour. Ribble's model has been applied in educational context pertaining to preventive measures in using digital technology. It is for awareness and performance in the online mode. Mossberger and others' (2008) model described the right use of digital technology to strengthen the citizenship behaviour in both online and offline mode. It is about the justified use of digitalization in the society for the economic, political and social gains. For students or public, their awareness and performance with digital technology will enhance their



capacity to harness their own potential to the larger extent, thus building up their psychological well-being.

16.5 Conclusion:

The concept of Digital Citizenship provides a comprehensive framework with the potential benefits to the psychological well-being of everyone in the digital world. The digital citizens depending on technology for most of their work, entertainment, commerce, and physical and mental health can be benefitted by the framework of Digital Citizenship. This is a theoretical approach to build the relationship between Digital Citizenship behavior and psychological well-being. This can be studied empirically in future explore the relationship. The awareness of a comprehensive framework for the rightful use of technology and media will enhance the psychological well-being.

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