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Contents

The fate of Higher Education in the Era of Chat GPT

Chat GPT is an AI-driven bot that can write a note, research paper, or assignment in minutes as per the exact instructions from its user. It is considered the highest used application within one month of its launch. As it has the potential to greatly help higher education in a variety of ways because it is an AI language model that has been trained on a sizable corpus of human language. But, to fully fulfil its potential, many issues must be resolved. It is crucial to understand that this model is not a substitute for real educators or conventional classroom instruction. Alternatively, it can be a useful addition to conventional teaching strategies, giving students individualised learning opportunities and aiding teachers in numerous ways. The availability of a wide knowledge base and resources to students is one way that it might enhance higher education, as it can serve as a virtual librarian for students, guiding them through the huge and expanding body of knowledge available online by producing logical and educational responses to a variety of topics.

Supporting research and innovation is another possible advantage of Chat GPT in higher education. It can assist researchers and academicians in a variety of subjects by opening up new lines of investigation, identifying prospective research questions, and generating fresh insights.

Yet several issues need to be resolved while using it in higher education. Securing the ethical and responsible use is one of its biggest challenges. Universities are now concerned that students may use it as a short cut to finish their assignments. The nature of plagiarism has come under scrutiny due to the use of AI-generated content in higher education. It can produce responses that are prejudiced or wrong since it uses an AI language model, and it is important to solve these problems to make sure that students are not misinformed or given false information. Another challenge is ensuring that the use of this language model does not displace human instructors or detract from the value of traditional classroom learning. While it can be a valuable supplement to traditional teaching methods, it should not be seen as a replacement for human instructors, which bring a wealth of experience, knowledge, and personal interaction to the learning experience. In conclusion, Chat GPT has the potential to significantly benefit higher education in several ways, including by giving students access to a sizable knowledge base and by fostering research and innovation. To fully exploit this potential, however, it is imperative to address the ethical and practical issues related to its use and make sure that it is appropriately and successfully incorporated into the sphere of higher education.

Analytical Execution of Balanced Scorecard: A Literature Review

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Abstract: The Balanced Scorecard (BSC) concept was first published in 1992 by R. Kaplan and D. Norton in Harvard Business Review. 2022 commemorates 30 years beforehand the first publication of the BSC article. The 30th anniversary of the BSC theory comes up with the prospect to review the picture of studies related to the BSC from 1992 to 2022. During 30 years, the balanced scorecard theory has been improved and got attention all over the world. This study aims to review the exercise of the BSC in performance evaluation of the different sectors and its impact on performance. This paper is mainly a review paper that is theoretical and descriptive in nature. The period of review of the past studies was fixed to 1992-2022 and reviewed about 51 articles selected from different reputed publishers like Elsevier, Emerald, Taylor & Francis, etc. The findings of the review indicated that the exertion of the BSC has a favorable influence on a different sector. The literature study on BSC gives an insight into the concept, implementation, strategic measurement, and application of the balanced scorecard.

Keywords: Balanced Scorecard, BSC Perspectives, Business, Literature Review, Performance Measurement

JEL Codes: L21, M10, M40

1. INTRODUCTION

The Balanced Scorecard (BSC) concept was first published in 1992 by R. Kaplan and D. Norton in Harvard Business Review. A performance measurement model namely the Balanced Scorecard was developed by integrating financial and operational indicators by Kaplan & Norton (1992). 2022 commemorates 30 years beforehand the first publication of the BSC article. The 30th anniversary of the BSC theory comes up with the prospect to review the picture of studies related to the BSC from 1992 to 2022. Kaplan & Norton (1992) composed a series of research papers (Kaplan & Norton, 1993, 1996a, 1996b, 2001, 2004b, 2004a, 2006) to enrich the

theoretical knowledge of the BSC. The original theory of the BSC made by Kaplan & Norton (1992) combines financial and three operational parameters namely customer, internal process, and learning and growth for strategic measurement and management performance. The BSC furnishes a holistic framework that translates a business' aims and objectives into a clear picture through strategic measures (Kaplan & Norton, 1996a).

Performance Measurement has been acknowledged as an essential aspect of improving organizational performance (Taticchi *et al.*, 2010). Performance measurement evaluates an organization and how successfully the operations are monitored and managed to attain their ultimate aim (Moullin, 2007). Before 1990, performance measurement involves traditional performance evaluation, i.e., analyzing the firm's financial indicators. But later in 1985, the authors argued some limitations of financial analysis and stated that an organization should be measured in the context of financial along with non-financial parameters. The financial analysis only reflects the firm's past operations. In contrast, the non-financial performance measurement can indicate future competition prospects and help to identify the strategic objectives to overcome future business conflicts (Dixon, *et. al*, 1990; Hayes & Abernathy 1980; Kennerley & Neely, 2003; Richardson, *et. al*, 1980; Skinner, 1974). As a result, the BSC framework developed by Kaplan & Norton (1992) is a strategic management and measurement concept that transmutes both financial and non-financial facts into an action plan that assists the business to measure its performance and meet long-term and short-term goals.

The authors (Kaplan & Norton, 1992; Keegan *et. al*, 1989; Lynch and Cross, 1991) nurtured the concept of the integration of financial along with non-financial indicators to measure and monitor the performance of the firms to reduce the complexity in achieving long-term objectives with short-term. The Balanced Scorecard combines financial and three operational parameters namely customer, internal process, and learning and growth for strategic measurement and management performance (Kaplan & Norton, 1992). BSC puts the organization's strategy and vision into action by placing them at the center of financial along with non-financial measurements (Kaplan & Norton, 1992, 1996a). These financial and operational measures are fixed to achieve the long-term strategic objectives. The BSC focused on balancing the financial parameters along with three non-financial parameters of consumers, internal processes, and learning and growth (Yahaya, 2009). Executives can manage the firm's competitive status if they measure intangible assets like corporate culture, system, leadership, employees' capabilities, etc. without any difficulties (Kaplan & Norton, 2004a). Learning and growth factors of the BSC are categorized as human capital, information capital, and organization capital to measure any strategy (Kaplan & Norton, 2004a). A well-developed BSC can forespeak about the expediency of the firm's strategy linked with the performance indicators related to the four dimensions of the BSC (Išoraitė, 2008).

2. RESEARCH OBJECTIVES

- To review the past studies to explore the state of the application of the Balanced Scorecard in performance measurement.
- To explore the relevance of the application of the BSC model for performance analysis.

3. REVIEW METHODOLOGY

This review paper is a theoretical-descriptive based study and used secondary data such as different journals, research articles, working papers, books, etc. Firstly, keywords were identified to initiate this review work. "Balanced Scorecard", "BSC", "Performance Measurement", "BSC in Banking", and "Application of BSC", were taken as key terms to search the articles, and research papers on the balanced scorecard from different journals on the Google search engine. The period of review of the past studies was fixed to 1992-2022 and reviewed about 51 articles selected from different reputed publishers like Elsevier, Emerald, Taylor & Francis, etc. The authors studied the selected articles on how the BSC was applied in different firms and its impact on organizational performance. Maximum selected articles of the BSC taken from the banking industry for review purposes. This review figures out some essential issues related to the BSC adaptation and marks the gaps in existing literature related to BSC theory. The literature study is categorized into two parts namely the theoretical framework of the BSC and the analytical application of the BSC.

4. DISCUSSION

4.1. Theoretical Framework of Balanced Scorecard

Kaplan and Norton (1992) originated the concept of the Balanced Scorecard in their article. This concept was taken into consideration not only financial factors but also intangible factors for the performance measurement of the organization. It enabled managers to understand the interrelation of financial and operational factors in business. They suggested the integration of intangible factors with financial factors for measurement which makes the organization future-oriented rather than past-oriented. According to Kaplan and Norton (1996), a Balanced Scorecard enables a manager to introduce a managerial process with four steps to linking long-term goals with short-term goals. BSC helps the managers to transform the organization's vision and goals into strategy, intercommunicate strategy to different levels of management, integrate an operational and financial plan of business, and improve through learning after a review process. Wilson *et al.* (2003) examined several case studies of public sector organizations for the execution of the Balanced Scorecard as an integrated measurement system. They proved BSC as a key management tool for performance evaluation systems that measure financial

as well as operational indicators of the business. BSC framework is accepted as a strategic measurement and management system by public-owned real estate organizations. Išoraitė, M. (2008) exclaimed a well-developed balanced scorecard is gainful to envisage the effectiveness of an organization's strategy through a set of inter-related efficiency measures on financial and other three qualitative perspectives including customers, internal business processes, employee learning, and innovation of BSC framework in her research paper. She states that only the development of BSC does not lead to improvement in business performance, it only gave a road map towards the achievement of the organization's strategic objectives. The integration of the BSC with other management control techniques is difficult and taking several measures ended up in the wrong measurement of the organization (Hoque, 2014).

4.2. Analytical Application of Balanced Scorecard

Cohen *et al.* (2008) made a study on Greek companies to investigate whether the qualitative factors of BSC lead to improvement in financial performance by applying correlation and factor analysis. The study propounded that non-financial factors are interrelated and dependent on each other. The financial indicators have a positive association with intangible assets of the organization which means the increase in growth of qualitative factors leads to improvement in the financial performance of the entity. Chen *et al.* (2008) applied the data envelopment analysis method by using a balanced scorecard, BSC with risk management, and financial measures for measuring business performance. Authors found that evaluation based on the BSC shows a different result as compared to other measures of evaluation. Geuser *et al.*(2009) investigated the contribution of BSC toward organizational performance by applying correlation and multivariate regression analysis. It was evidenced from the study that BSC created value for the organization which implies the adoption of BSC for strategic measurement of business positively influences the performance of an entity. Yahaya (2009) developed a BSC model to evaluate the performance of Ghanaian banks. The analysis showed the impact of non-financial measures on financial performance. The study also disclosed that the BSC produces additional information about the performance of the banks.

Khan *et al.* (2011) explored the use of the BSC in Bangladeshi firms which includes quantitative and qualitative measures, the reasons for taking BSC as a performance measure, and its associated loopholes. The study found only ten percent of the sample Bangladeshi firms used the BSC model but financial measures are used in maximum firms for assessment. Firms generally adopted the BSC model for assessment to make managerial decisions but it had a lack of managerial support. Al-Najjar and Kalaf (2012) framed a Balanced Scorecard for measuring the efficacy of a local bank in Iraq in their research paper. Their research found that the bank's performance is ineffective, and the bank's performance on internal business processes and customer perspective is unsatisfactory. Performance score on financial and

learning & growth perspective is better than other two perspectives. Panicker and Seshadri (2013) exercised the BSC as a performance measurement method to assess the performance of the Standard Chartered bank. The study revealed that the bank performed better on the learning and growth perspective of BSC as compared to the other three perspectives. Öztürk and Coskun (2014) went through the literature on the history and implementation of the BSC model in the banking industry. The study found that the application of the BSC is beneficial to reporting the integrated performance of the bank as compared to only financial measures. Ibrahim (2015) studied how the BSC is applied as a performance measurement tool in Nigeria's banking industry. The researcher adopted 11 banks as sample banks, and the Kruskal-Wallis test was performed. The study figured out the customer perspective was getting more attention among all four perspectives of the BSC model for measuring the banks' performance. Kumar (2015) examined the issues and challenges of implementation of the BSC in the Indian banking sector and made a comparative performance of public and private banks on the BSC method of measurement. The author emphasized on benefits of non-financial measurement of the BSC. The study found that public banks should adopt standards to have healthy competition to make a top position in the Indian financial sector. Agyei and Ntiamoah (2016) compared the performance of two banks namely BBGL and EBG in the Ghanaian banking sector by developing a balanced scorecard for each bank. It was evident from the analysis that both the banks were doing well from a financial perspective as compared to the non-financial perspective of the BSC. V.Annapurna and Manchala (2017) applied the BSC model to evaluate the performance of Indian Private Banks. Their research found that the banks performed differently in all four perspectives of the BSC model except CAR and the number of ATMs of financial and growth & innovation factors respectively. Edjoukou *et al.* (2017) drew the inference that the BSC model can be put to use for measuring the performance of banks in Cote d'Ivoire and it is a feasible method of performance evaluation. The authors came to the conclusion that the BSC can furnish additional facts related to qualitative perspective along with financial information. Singh (2018) framed a BSC to estimate the performance of the HDFC bank in India. The analysis found that the bank was doing well in the finance and customer-aspect as compared to other aspects of the balanced scorecard. Yilmaz & Inel (2018) constructed sustainability BSC (SBSC) by integrating the sustainability factors with the BSC factors for assessing the Turkish banks. A model was created by taking bank-specific variables to evaluate the sustainability performance with the application of the TOPSIS method. Banks were ranked according to their performance evaluated by the SBSC model.

Osunsanwo and Dada (2019) measured the operations of 37 quantity surveying firms (QSFs) by using the BSC model in Nigeria and found that the firms were doing an impressive performance in non-financial measures but the banks have awful performance on financial measures. Kefe (2019) framed a BSC for a yarn manufacturing company to assess the participation

of the scorecard to link the activities with the organizational goals. The study reported that the pursuance of the BSC model indicates that integration of financial and non-financial measures is required to assess the impact of business activities on the organizational objectives. Turshan and Karim (2019) investigated the impact of BSC on the financial performance of banks in Palestine. Their study showed that the financial performance of Palestine banks can be improved by using the BSC model and banks emphasized their financial and learning and innovation perspective of the BSC model as compared to the other two perspectives. Quezada *et al.* (2020) integrated the SWOT analysis with the BSC model to develop a model for the assessment of the performance of a food company. The proposed model analyzed internal and external factors of the company from the BSC model's strategic objectives. It was found from the study that this method is an integrated technique that combines qualitative and quantitative, internal and external factors of the company for the assessment purpose. Though this method is a time-consuming process, it communicated with the managers about strategic issues and facilitated them towards a solution. Bošković & Krstić (2020) combined two techniques i.e. the BSC and Data Envelopment Analysis (DEA) to assess the efficacy of the Serbian bank branches. It is affirmed from the analysis that the assessment of business efficacy can be simplified by the composite application of both methods. Dincer *et al.* (2020) analyzed the BSC-based performance to identify the appropriate factor of the BSC theory for measurement of the banking sector in Turkey by using Analytic Network Process. The results reported that priority is given to the finance, customer, internal business, and employee perspective of the BSC respectively by the Turkish banks for reconnaissance of performance. Benková *et al.* (2020) identified the aspects stimulating the adoption of the BSC framework to analyze the performance in the engineering sector in Slovakia and justified the worth of non-financial indicators under the BSC framework. Beyene (2021) measured the performance developments by adapting the BSC model in NIB International bank in Ethiopia. The study concluded that the bank's achievement in financial performance is appreciable and the author recommends to the bank that NIB should execute client awareness promotional programs and appraise individual employees' performance for a better compensation system. Algerian banks are required to adopt modern methods of performance appraisal such as BSC instead of traditional performance measurement methods which only assessed the financial performance (Bourdima, 2021). Akman and Turan (2021) designed an extended BSC framework with additional two perspectives namely the risk and agile perspective for the banking sector to exhibit the relation of risk and agile with other perspectives of the BSC by using fuzzy DEMATEL. The study came up with the findings that risk is mostly related to other perspectives of the BSC. Ali and Anwar (2021) observed the relationship of the BSC factors with the strategic mechanism in the banking industry and found that all the perspectives of the BSC method have an impact on the strategic mechanism. The study also depicted that non-financial factors have a better

influence on the success of employees of banks. Ngure (2022) measured and monitored a road map of a non-profit organization by taking four parameters of the BSC model and ended with a conclusion that a balanced scorecard is a useful tool for assessing and monitoring the action plan of an organization. Rezaee *et al.* (2022) measured the mediating role of managerial tools namely innovation and knowledge management on the association of four perspectives of BSC on banks' effectiveness by using the outcomes of structural equation layout. Mio *et al.* (2022) undertook a systematic literature survey of research studies published in ABS-ranked journals on the impact (role) of sustainability BSC in business performance. Wagdi *et al.* (2022) designed a five dimensions BSC with an additional factor to the existing BSC model namely risk factor to assess the stock performance of the Egypt Stock Exchange. The research found that the BSC's five perspectives have affected the return and risk of stock performance of companies in Egypt.

5. ANALYSIS & FINDINGS

With reference to the retrospect of 51 articles, the authors categorized 25 articles are conceptual and 26 articles are either empirical or exploratory in nature. The BSC theory has been applied extensively in many sectors likely yarn factories (Kefe, 2019), food industry (Quezada *et al.*, 2020), engineering industry (Benková *et al.*, 2020), survey firms (Osunsanwo & Dada, 2019), different companies (Cohen *et al.*, 2008; Geuser *et al.*, 2009; Khan *et al.*, 2011), in SMEs (Zizlavsky, 2014), non-profit organization (Ngure, 2022), stock exchanges (Wagdi *et al.*, 2022), banking industry (Agyei & Ntiamoah, 2016; Al-Najjar & Kalaf, 2012; Bošković & Krstić, 2020; Bourdima, 2021; Kumar, 2015; Rezaee *et al.*, 2022; Turshan & Karim, 2019) and many more. Many researchers applied several statistical techniques such as regression, correlation, ANOVA, t-test, factor analysis, structural equation model, etc. in empirical studies of the BSC. In addition to that researchers also integrate BSC with other methods like data envelopment analysis, AHP, TOPSIS, and SWOT analysis to evaluate the business efficacy in strategic measurement. This study aims to review the exercise of the BSC in performance evaluation of the different sectors and its impact on performance. It is evident from the many research papers that the implementation of BSC in business has an impact on performance (Ali & Anwar, 2021; Geuser *et al.*, 2009; Turshan & Karim, 2019; Yahaya, 2009). The BSC analysis produces not only quantitative but also qualitative facts related to business (Edjoukou *et al.*, 2017). Managers integrate both financial and non-financial measures with strategic goals to make an organization competitive.

The figure above reveals the word cloud and words frequency. The prominent words in word cloud are used more number of times in the literatutes. Words like "balanced", "performance" and "scorecard" are prominent which infers that researchers percieved balanced scorecard as a performance measuring tool. Word frequency also draws similar deductions. In every literatures, performance is measured through balance scorecard.

Figure 1: Word Cloud and Frequency of Balance Score Card

Source: Compiled in https://voyant-tools.org/

Figure 2: Keyword Co-occurrence Analysis

Source: Compiled in VoS Viewer

In the keyword co-occurrence analysis, nodes indicate keywords and connecting lines represents co-occurrence. Four clusters are generated with minimum occurrence of two. The largest cluster is marked in yellow colour with the keyword balanced scorecard which

is connected with performance measures, strategy maps, performance management, etc. Further, in other clusters, balance scorecard is linked with strategy, performance, sustainability, management control and innovation which deduces that such technique is a measuring parameter for sustainable performance.

6. IMPLICATION & CONCLUSION

Management, executives, and researchers experienced many issues in estimating the performance of the organization. Organizations adopted a holistic approach to appraising activities by switching from financial analysis to integrated analysis of both financial and non-financial measures to sustain and survive in the competitive business world. The Balanced scorecard has turned out to be a popular and expedient system of performance appraisal because of its extensive use in all sectors. This paper is designed to review the exertion of the BSC in the performance evaluation of the different sectors and its impact on performance. The findings of the review indicated that the exertion of BSC in business has an impact on performance and it is a constructive method of strategic measurement and management of performance indicators. Along with that researchers extended the existing framework of the BSC by putting on some additional perspectives such as risk, agile, sustainability, environment, and social responsibility to the BSC concept (Akman & Turan, 2021; Wagdi *et al.*, 2022; Yilmaz & Inel, 2018). Customer, internal business, and learning & growth perspectives have influenced organizational performance (Kefe, 2019; Turshan & Karim, 2019; Yahaya, 2009). The exertion of the BSC has a favorable influence on different businesses. This review paper on the BSC covered the period of thirty years from 1992 to 2022 which gives an insight into the concept, implementation, strategic measurement, and application of the balanced scorecard. It will assist the researchers, academics, and practitioners to increase their knowledge related to the BSC and for their further studies. This literature retrospect brings to light multiple facts but there are some issues like a review on implementation of the BSC in different sectors individually, exploratory studies and case studies on BSC, causal linkages of BSC perspectives, review on extended BSC framework, etc. which entails further study.

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Covid-19: A Salient Driver of the Emerging Gig Economy in India

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Abstract: The study investigates the growth of the gig economy amid the Covid-19 outbreak. The article also emphasised on the beneficial impacts of the Covid outbreak, which, although being damaging, helped to the country's progress by changing the traditional way of working. The paper also looked into individuals 's perceptions of gig jobs, which had gained popularity due to the spread of the lethal disease. For this study, 200 persons were picked at random from IT organisations, with 158 employees participating in the questionnaire response. The questionnaire consists of specific questions on distinct variables that may stimulate or demotivate people to participate in the gig sector or take up gig employment. The findings indicate that perhaps the service sector may be a viable career option for both men and women. Men and women are both drawn towards the gig economy for reasons of income and flexibility, given the fact that a significant percentage of them working out of the gig economy. Women were more inclined than men to claim to performing gig jobs because it was appropriate for their schedule,' implying that non-work activities like as family, act as constrain for women more than men. Males were observed to be more productive than females in creating money through gig labour.

Keywords: Gig, Gig Economy, Pandemic, Covid-19, Perception

JEL Codes: M55, I150, O5, M51

1. INTRODUCTION

Over time, the digital gig economy in India has rapidly gained popularity and has increased chances for many. The gig economy is also known as the digital economy, on-demand economy, peer economy, and sharing economy. The gig economy may be divided into the online gig economy & the physical gig economy, with the former encompassing work-on-demand via applications and online labour such as crowd work, microwork, or freelance work. The required skills for each kind of profession are different. Urban India has seen a significant evolution of the gig economy, which is already employing number of migrant workers and has the capacity

to do so in the future (Betterplace, 2022). India holds close to one-third of the worldwide market for freelancers, which is estimated to be worth \$2–3 billion. According to Truelancer's assessment (Jessy, 2016), the US has the most independent workers (53 million), followed by India (15 million). Demand of the services offered as well as a steady source of individuals eager for accepting works have both contributed to the platform economy's continuous rise in India. Due to the enormous freedom, it has given employees, the gig economy may end up being a key component in the future of employment. Several studies have looked at how the Covid-19 occurrence has influenced share prices and conventional economies, but nothing is known about how it has affected emerging gig economy. The gig economy is a revolutionary idea that is divided into four dimensions: internet intermediaries, paid work, contract workers, and personal services. It is thought to be the most significant economic transformation of the past ten years. This study makes an effort to comprehend how Covid-19 has affected platform economies. Many businesses have urged their staff to work remotely whenever feasible due to the shutdown. It would be fascinating to know whether or not the pandemic's occurrence has benefited the gig economy.

2.   REVIEW OF LITERATURE

Altimier (2006) demonstrates a trend toward a show economy, ephemeral circumstances with consent, and free labourers for temporary commitment. Firm visionaries may build a business around this type of self-administration business with a little originality and smarts. Individuals who need to start this type of activity and concentrate upon the most well-known administrations, for example, data passage, writing, PC programming spreadsheets like Excel, and a wide variety of site development errands. Significant sites, for example, Fiverr and Upwork, work list activities and shows available. (Chisty *et al.*, 2007) The author attempted to uncover a link between a person's financial state and their social rank. In his article, he identifies financial advantage and social prestige, solid career prospects, employment safety, and parental influence as important motivators for young generation career preferences in Bangladesh. They discovered that 38.7% of graduates choose banking and 23.8% favour multinational corporations over any other employment. According to their findings, 11.7% of students choose teaching and 8.2% want to be business owners. (Park & Gursoy, 2012) The study focuses on determining generational disparities in workplace beliefs and attitudes with regard to various generations at work. They attempted to conduct a survey of over 600 customer service executives from various generations. According to the study's conclusions, the amount of job involvement necessary for each generation of work is varied, and no single technique would work for all. (Ashford *et al.*, 2018) The study demonstrates that by what means work is done has fundamentally altered in recent eras, with an increasing no. of individuals operating self-reliantly, outdoor of organisations, in a work style considerably dissimilar from that

expected by many organisational behaviour theories. Individuals have predictable obstacles when operating in this manner, such as being viable, staying organised, retaining identity, maintaining connections, and surviving emotionally. It was discovered that now the work and relationship behaviours required for such flourishing, as well as the emotional and cognitive capacities that underpin them. (Ganesh, 2020) This article investigates the three primary stakeholders in the Gig Economy and their interactions. Furthermore, the requirement for an HRM viewpoint while making crowd work decisions is emphasised. This study then proposes a conceptual framework for defining "Gig Projects" from a human resource viewpoint, as well as a method for designing particular HR procedures for the various sorts of Gig Workers. (Tan *et al.*, 2021) The study presents a brief overview of a gig economy, its scope, and its three types: new employment institution (what is performed), new employment type (how it will be done), & new employee rank (who does it). The research evaluates a new EU initiative aiming at tackling challenges related to the gig employment. The findings suggest that as gig economy evolves, it is necessary to address the whole range of ethical difficulties that it brings in order to make sure that this new kind of labour is more than merely bearable, but may potentially become such a morally desirable and egalitarian growth of the market economy.

The major gig work studies have been undertaken in Western countries, only with a few studies completed in India. Existing study has largely focused on the benefits and drawbacks of this system, as well as how legislation and suitable policies may safeguard the interests of such workers. It was discovered that certain studies on the rising trend are still being conducted in Western nations, but the research was restricted to individual perceptions of the gig economy following the covid outbreaks. However, no comprehensive research regarding the impact of the Covid-19 outbreak on the rise of the gig economy has been conducted, resulting in a greater understanding of individuals' perspectives of the gig economy. The purpose of this research is to see if the pandemic has had a significant influence on India's gig economy. It also looks at how people perceive the gig economy. Furthermore, this study looks into the rewards of those that work in the gig economy.

3. RESEARCH OBJECTIVES

1. To study the impact of COVID-19 towards rise in India gig economy
2. To study the perception of individual towards gig economy among male and female

4. RESEARCH HYPOTHESES

H0: There is no significant impact of COVID-19 outbreak towards the rise in Indian gig economy.

H0: There is no significance difference between individual perception towards gig economy between male and female.

5. RESEARCH METHODOLOGY

The primary purpose of this study is to increase understanding of how individuals view the gig economy. The relation between an individual's perception and choice for gig labour was examined using the Chi-square test with only a significance level equals to 5%. A questionnaire was created for this study and disseminated. For this study, 200 persons were picked at random from IT organisations, with 158 employees participating in the questionnaire response. The questionnaire has 14 questions. It was intended to reflect how the individual felt about the gig economy. 158 people were used as the sample size. SPSS was used to analyse the data using the Chi-square test.

Secondary data was acquired from two sources: Oxford University's iLabour Project's Online Labor Index (OLI) (Stephany *et al.*, 2021) and data on new Covid cases from 'Our World in Data' (COVID-19 Data Explorer, 2020) to investigate the pandemic's influence on India's gig economy. A descriptive analysis is performed on the dependent variable which is gig employees, and the explanatory variables, new COVID-19 cases. In descriptive statistics, the mean, standard deviations for the variables under study are used to characterise the overall behaviour of the data. The Pearson correlation method is again performed to investigate the linear relationship between the dependent and explanatory variables. The correlation coefficient ranges from +1 to -1. The Unit Root Test is used to determine data stationarity prior to performing econometric analysis. When analysing time series data, the Augmented Dickey-Fuller testing (ADF) is used to evaluate stationarity, or if the data series has a unit root. On the basis of the outcomes of the ADF unit root test, we perform a simple Ordinary Least Squares (OLS) regression to assess how the COVID outbreak has impacted the gig economy in India.

6. ANALYSIS AND INTERPRETATION

Table 1 first provides the results of the descriptive statistical analysis. According to the statistics, the average number of online gig employees between 1st March 2020 and 1st April 2021 is 150692, consisting of standard deviation which is 77136. The average number of fresh COVID cases over the research period was 31986, consisting of a standard deviation of 31006.

Table 1: Descriptive or Summary Statistical Analysis

Variables	No of observation	Mean	Median	Std. Deviations
COVID new cases	14	31986	19120	31006
Gig workers	14	150692	140080	77136

Source: Authors' Own Compilation

Table 2: Pearson Correlation

	COVID new cases	Gig workers
COVID new cases	1	0.1306
Gig workers	0.1306	1

Source: Authors' Own Compilation

Table 2 also includes the findings of the correlation analysis. The findings show a substantial positive link between COVID cases and gig workers, with a correlation value of 0.1306 at the 1% significance level. This suggests that there is a link between COVID new instances and gig employees in India. The average number of fresh COVID-19 cases over the research period was 31986, consisting of a standard deviation of 31006. A data series is only referred to as stationary if its statistical properties, such as mean and variance, remain constant across time.

Table 3: ADF Unit Root Test

Variables	t statistic	Prob
COVID new cases	-1.8256	0.035*
Gig workers	-5.0168	0.0037*

Source: Authors' Own Compilation

Both variables are stationary at level because they were integrated within the same order. Based on the ADF (Augmented Dickey Fuller) test findings, it is suggested that the influence of the COVID outbreak on Indian gig workers be explored using OLS (Ordinary Least Squares) regression. Table 4 shows the findings of a simple OLS model, which show that the COVID-19 outbreak has a significant positive influence upon India's gig economy, rejecting the null hypothesis. The number of employees may rise by 0.032 for each and every increment in covid cases, based on the regression results. This could be due to the pandemic's lockdown as a result of rising infections, which has increased the requirement for gig labour to be conducted via platforms where people likely at home purchase all the essentials via various applications, and thus more gig workers are required to fulfil orders placed online.

Table 4: Ordinary Least Squares Regression Results

Dependant Variable, GIG WORKERS	Coefficient	Std. Error	t-Statistic	Prob.
COVID_NEW_CASES	0.032400	0.001200	0.456300	0.0032
C	10.78030	0.013100	516.8880	0.0002

Source: Authors' Own Compilation

The findings strongly suggest that the outbreak has a favourable influence on India's gig economy as contrasted to the traditional economy. There is also a significant cause-effect link

between the two, namely the COVID cases & the gig workers. Our analysis found that a pandemic has a significant positive influence on the digital gig economy. Politicians are thus urged to make every effort towards support of gig economy & propose policies such as giving these gig workers job security as doing so could keep the economy to continue to function even at times of global crises.

Table 5: Demographic Profile

	SAMPLE SIZE	158	
		FREQUENCY	PERCENT
1	Gender		
a	MALE	91	58%
b	FEMALE	67	42%
2	Preferred Gig Worker		
		YES	NO
a	MALE	61	30
b	FEMALE	48	19
	TOTAL	109	49
3	AGE		
a	18-25	45	28%
b	26-35	59	37%
c	36-45	36	23%
d	46-55	13	8%
e	Above 56	5	3%
4	Your entire annual income is around		
a	None	11	7%
b	Less than 5 lakhs	39	25%
c	5 to 10 lakhs	60	38%
d	10 to 20 lakhs	32	20%
e	Greater than 20 lakhs	16	10%
5	What kind of employment/job do you have or did you have prior		
a	Fulltime	64	41%
b	Part time	22	14%
c	Consulting/freelancing	36	23%
d	More than 1 job	9	6%
e	Entrepreneur	27	17%

	SAMPLE SIZE	*158*	
6	How many hours do you spend on average every day on your job?		
a	2 to 4 hours	32	20%
b	5 to 8 hours	71	45%
c	9 to 12 hours	20	13%
d	More than 12 hours	35	22%
7	Which job category are you keen in?		
a	Fulltime	54	34%
b	Part time	12	8%
c	Consulting/freelancing	41	26%
d	Entrepreneur	51	32%
8	Will you quit your secure employment to follow something you genuinely want?		
a	Yes	86	54%
b	No	43	27%
c	Depends on situation	29	18%
9	I'd really like to engage in my field of interest		
a	Along with my present Job	37	23%
b	After quitting my regular job	61	39%
c	Post retirement	48	30%
d	Not interested/Not applicable	12	8%
10	Do you have any cash reserves if you wish to explore entrepreneurship/ freelancing instead of working full-time?		
a	Yes	69	44%
b	No	89	56%
11	I'm hesitant to consider starting my own business or doing freelancing work because		
a	Lack of ideas	24	15%
b	High competition	32	20%
c	Lack of funds	42	27%
d	Risk factor	23	15%
e	Lack of confidence	18	11%
f	Lack of information	19	12%

	SAMPLE SIZE	158	
12	Freelancing is appropriate for		
a	Retired people	27	17%
b	Professionals	46	29%
c	Women	17	11%
d	anyone	68	43%
13	The rise of freelancing is due to		
a	Increase in Unemployment	33	12%
b	Availability of Multiple options	49	36%
c	Flexibility of working	57	31%
d	Lucrative income	19	21%
14	People are hesitant to transition to freelancing due to		
a	Lack of confidence	44	28%
b	Low self esteem	39	25%
c	Lack of fixed income	75	47%

Source: Authors' Own Compilation

The Table-6 below represents the Case Processing summary, which shows how many valid cases were used for analysis.

Table 6: Processing Summary

	Valid		Cases Missing		Total	
	N	Percent	N	Percent	N	Percent
Gender* Preference For Gig Work	158	100.00%	0	0.0%	158	100.00%

Source: Authors' Own Compilation

The findings of the crosstabulation & chi-square test are in the following tables.

Table 7: Gender * Preference for Gig Work Crosstabulation

			PREFERENCE FOR GIG WORK		TOTAL
			YES	NO	
GENDER	MALE	Count	61	30	91
		Expected Count	62.8	28.2	91.0
	FEMALE	Count	48	19	67
		Expected Count	46.2	20.8	67.0
TOTAL		Count	109	49	158
		Expected Count	109.0	49.0	158.0

Source: Authors' Own Compilation

Table 8: Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig (2-sided)	Exact Sig (1-sided)
Pearson Chi-Square	.383[a]	1	.536		
Continuity Correction[b]	.198	1	.656		
Likelihood Ratio	.385	1	.535		
Fisher's Exact Test				.603	.329
Linear-by-Linear Association	.381	1	.537		
N of Valid Cases	158				

0 cells (0.0%) have expected count less than 5. The minimum expected count is 20.78
Computed only for a 2X2 table

Source: Authors' Own Compilation

The key observation from the table of Chi-Square Tests:

- The test statistic's value is 0.383.

- Since the cross - tabulation is indeed a 2x2 table, the test statistic's degree of freedom (df) is df= (R–1) * (C–1) = (2–1) * (2–1) =1

- The test statistic's associated p-value is *p* = 0.603.

Rule of thumb: If (Alpha) = 0.05, a test is considered significant.

If p is ≤ 0.05 the test is significant There is a significance difference between individual perception towards gig economy between male and female.

If p is > to 0.05 the test is not significant There is no significance difference between individual perception towards gig economy between male and female. Since the p-value exceeds our selected significance level (α) of 0.05 by a wide margin, we therefore agree with the null hypothesis and draw the conclusion that there is association of gender & an individual's preference for the gig economy. According to the findings, there is a considerable association of gender and an individual's preference for the gig economy. (χ^2 (1) = 0.383, p = 0.603).

7. FINDINGS

The gig service sector, which was considered to be a huge economic revolution over the previous few years (Jeon & Ostrovsky, 2020), has grown more quickly than ever before after the COVID-19 outbreak emergence. The COVID-19 shutdown seems to have a substantial effect on the labour market globally, with a rise in the popularity of temporary gig employment (Baker *et al.*, 2020; Dev & Sengupta, 2020). Because of the enormous and exciting potential of the Indian gig economy, the current study investigates the influence of the Covid outbreaks

on the Indian gig service sector. The COVID-19 breakout has significantly benefited India's gig economy, according to the research. The findings of the study, the first such in India, should be utilised by authorities to promote the gig service sector at challenging times when the economic slump appears to be severe due to a contagion, and the gig service sector may thus be a glimmer of hope used to feed Indian economy. Because of this positive contribution towards the gig economy, policymakers may be able to address issues confronting gig workers, such as job insecurity, well-being and security concerns, and a lack of numerous benefits and compensation for these employees who are critical to the nation's positive economic change. To ensure labour protection across all aspects of these digital platforms, a regulatory framework should be developed.

Again, the findings indicate that there's no difference in male and female perceptions regarding gig employment in the gig economy. In this regard, both men and women have an equal say. They consider the gig economy as a career option because the issue of unemployment has also been increasing for a long time, especially since the 2008 recession, when companies were very cautious about hiring full-time employees. Companies are constantly looking for cost-effective ways to meet their manpower requirements, such as hiring temporary/contract workers, outsourcing, and so on. It has been observed that many women leave their occupations owing to family duties and child care, and very few of them are able to return and restart their careers. As a result, women should be evaluated for such types of engagements in which they may have maximum freedom while still continuing to work on their own terms. Even males do not have enough time to dedicate to other tasks; nevertheless, with gig employment, one may devote their time to other projects or an extra source of revenue.

8.   SUGGESTION AND CONCLUSION

Although this strategy may not be appropriate for all professions, it is appropriate for those where innovation is required but it is not necessary to be fully connected with the organisation. Such profiles should be developed, and appropriate Job Descriptions should be written for each. HR departments should determine competency for such types of jobs and have a system in place to evaluate them. The findings suggest that government should take action to promote the gig economy as it could help society function even in really difficult times.

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Attitude Analysis in the Banking Sector: A Study of District Central Cooperative Banks in Cuttack District of Odisha

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Abstract: An attempt has been made to analyse borrowers' attitude towards the financial assistance of the District Central Cooperative Banks (DCCBs) and to ascertain the factors which may influence their satisfaction level. Borrowers' attitude towards sanctioning of loans, its repayment, and various schemes and policies of DCCBs have been considered to measure the satisfaction level with the help of Factor Analysis and Chi-square test. A schedules questionnaire was formed for data collection. Questions or variables are traced from different literatures. The research work is confined to the district central cooperative bank of Cuttack. The study concludes that majority of the borrowers have medium level of satisfaction regarding the lending services of DCCBs. Educational qualification have an influence on the satisfaction level of borrowers while gender and age do not influence their satisfaction level. In factor analysis, 'Approach of staff in loan sanctioning process is satisfactory', 'Queries are resolved within reasonable time', 'Borrowers are not treated at par' are the variables influencing borrowers' attitude towards the lending services of DCCBs. The paper suggests that the DCCBs should look into the repayment schedules of the borrowers while processing new loans to them.

Keywords: Attitude, Cooperative Banks, DCCBs, Lending services, Institutional Finance

JEL Codes: E50, P13, G21

1. INTRODUCTION

Cooperative banks are the backbone of rural loan distribution in India. Customers are also owners because their members own them. The need for financing in rural regions prompted India's co-operative movement, which provides both short-term and long-term lending structures. Borrowers who need short-term agriculture and related purpose credit, such as a crop loan, can count on the District Central Cooperative Bank for assistance.

Cooperative banking is clearly a lifeline for a vast rural population when it comes to providing financial services. Cooperatives have evolved significantly over time and are becoming increasingly vital to economies. Talla et al., (2021 rightly pointed out that with reference to DUCB, the investigated data demonstrates significant growth in deposits mobilization, membership, loans and advances, working capital, reserves, owned funds, total income, etc. On the other hand, cooperatives are marginalized and viewed as inefficient and ineffective organizational types whose existence is often fleeting, either due to commercial banks' entrance into rural agricultural sectors or cooperative banks' rising non-performing assets (NPAs). As a result, it is indeed essential to study about how borrowers feel about taking out and repaying loans.

An attitude is a mental or neurological state to perceive, accept or resist a state of affairs. Due to an individual's experience and temperament, an attitude is a mindset or a tendency to act in a certain way. Feelings, thoughts, and behaviours all influence one's attitude. Attitude contributes to scenario comprehension as well as behaviour in specific situations. Decisions and behaviour are influenced by one's attitude. The attitude of borrowers towards the issue of loans and advances, as well as the recovery of loans and advances have been investigated in order to determine the level of satisfaction of borrowers in cooperative banking systems.

The banking sector's role in India's economic activity has been steadily increasing. The banking industry has a significant impact on national income. The current study looks at borrowers' attitudes regarding taking out and repaying agricultural loans in the Cuttack District of Odisha, and it helps to discover the elements that influence borrowers' attitude. The current study is significant because it will assist banks and the government in better understanding the state of DCCBs in the Cuttack District of Odisha, as well as borrowers' psychological behaviour about loans and advances. This will enable banks and the government to create more effective plans and policies to improve the services provided by these banks. This research is significant in terms of new theoretical and practical understanding. The current study will be used as a reference point for future research and development on the subject.

2. REVIEW OF LITERATURE

Siddaraju (2012) explained about the problems and challenges associated with cooperatives in India. He has concluded that Cooperative Banks have a duty to rise up to meet these aspirations, convert the perceived weakness into exciting opportunities and facilitate inclusive growth. Ekore and Olufunmilayo (2013) examined the attitude towards savings, loans and monetary investment in predicting psychological well-being. Result revealed that there is a significant combined influence of attitude towards savings, co-operative loan and investments on psychological well-being. Waraich and Dhawan (2013) evaluated the comparative examination of capital adequacy of selected six District Central Cooperative Banks of Punjab found that

in terms of capital adequacy, Sangrur, Mansa and Gurdaspur DCCBs had not attained the prescribed capital adequacy level. Lakshmi and Manoj (2015) made an overall study of the financial and operational performance of Kannur District Co-operative Bank (KDCB). The case of co-operative banks deserves special focus to sustain in the market. Kanchan (2016) focused on the performance of cooperative banking in respect of agricultural credit and rural development and found that though the number of PACS has shown a tremendous rise. Loans issued by PACS in the state of Punjab recorded very meagre share over the loan issued by all PACS in India. Varalakshmi and Deepika (2016) highlighted the lending practices of District Co-operative Central Bank in Visakhapatnam and measured its efficiency and operating performance. It has concluded that except loan sanctioning policy almost all the respondents are satisfied with overall services rendered by the bank.

Maheshwari and Preety (2017) focused on the problems and prediction of NPA's. They have found that there is a direct association between non-performing assets and profitability of the bank. Banu and Kumar (2017) examined the loans & advances and recovery of loans of Hyderabad district co-operative central bank. The study revealed that the short-term loans dominate the total loans issued at more than 92 per cent during the study period. Joshi and Joshi (2018) evaluated the causes, effects and trends of Gross NPA in Pithoragarh District Co-operative Banks. It has suggested that proper system of recovery should be done and loan portfolio should be revived by the bank. Sarkar and Karak (2018) explored the conceptual framework of NPAs in banking sector, trends of Gross NPAs and Net NPAs of the Burdwan District Central Co-Operative Bank Ltd (BDCCBL The overall picture of NPA management is not satisfactory of the bank. Measures required to be taken to reduce NPA to put BDCCBL on sound footing. Sujith and Sumathy (2019) examined the customers satisfaction towards the services of Primary Agricultural credit societies. They need to maintain a stable and strong relationship with their customers because satisfaction of the customer is crucial for long term success. Vettivel and Selvi (2019) attempted to evaluate the perception of customers towards lending practices of Commercial banks in Tiruelveli District of Tamilnadu. It has found that the factors like credit volume, customer satisfaction, affordability and unbiased were filtered by factor analysis. Reddy and Shankar (2019) explained the reasons for selecting the bank to avail credit and analysed the farmers' attitude towards agricultural credit provided by the banks. It has suggested that both the central and state government should take initiatives to broaden the agricultural credit to the needy farmers to bring overall and balanced growth in the country.

The genesis of a concept, formulation of a hypothesis, selection of various instruments for analysis, and reaching significant conclusions were all aided by review of previous literatures on attitude analysis towards loans and advances. NPAs, agricultural loans, perception analysis, and cooperative banks financial performance have all been the subject of several studies. No doubt, all of these researches have influenced the development of a study design

that covers a broader range of topics than any of the previous studies. This paper is a novel attempt in this regard. Thus, there exists a literature gap in this area. In the present study, an attempt has been made to fill this gap by investigating the psychological behavior of borrowers regarding the issue and recovery of various loans and advances given by Cuttack DCCBs in Odisha.

3. OBJECTIVES OF THE STUDY

1. To analyze the attitude of borrowers towards availing and repaying agricultural loans.

2. To identify the factors determining the attitude of the borrowers by Factor Analytical method.

4. HYPOTHESES OF THE STUDY

1. H01: There is no significant relationship between the gender of the respondents and the levelof satisfaction based on attitude of borrowers.

2. H02: There is no significant relationship between age of the respondents and the level ofsatisfaction based on attitude of the borrowers.

3. H03: There is no significant relationship between educational qualification of the respondents and the level of satisfaction based on attitude of the borrowers.

5. RESEARCH METHODOLOGY

Random sampling method has been followed for the study. A sample of 450 respondents from the universe has been selected. A self-structured questionnaire was prepared as the survey instrument. The present study is also based on secondary data. The factor analysis was applied to know and measure the factors influencing attitude of borrowers towards availing and repaying bank loan. The principal factor analysis with the Orthogonal Varimax Rotation is used in factor analytical method. One of the final results of factor analysis is called the Rotated Factor Matrix, a table of coefficients that express the ratios between the attitude variables and the underlying factors have been shown. Chi-square test is applied in which association of attitude level with different variables was considered. To understand whether factors like age, gender and educational qualification of borrowers influence the levels of satisfaction of the borrowers, the Chi-square test has been employed.

6. DATA ANALYSIS AND INTERPRETATION

In this section an attempt has been made to condense the attitude of the borrowers into a few factors by using the Factor Analytical Method.

6.1. The Analytical Framework

Factor Analysis was used to condense and analyze the attitude of the borrowers towards the financial assistance of the District Central Cooperative Banks. An attempt is made to trace several factors in the rotated component matrix with its factors loadings. The attitude variables with factor loadings of 0.50 or greater have been considered significant variables

6.2. Results and Discussion

Table 1 gives the loadings received by the factors F1, F2, F3, F4 and F5 for the attitude variables of the borrowers towards the financial assistance of the District Central Cooperative Banks.

Table 1: Rotated Factor Matrix

Variables	Factor Loadings					h^2
	F1	*F2*	*F2*	*F4*	*F5*	
V1	0.7962					0.67
V2	0.6145					0.56
V3	0.5762					0.54
V4	0.5171					0.55
V5	0. 5701					0.70
V6		0.6912				0.60
V7		0.6231				0.57
V8		0.5736				0.67
V9		0.5441				0.63
V10		0.5362				0.57
V11		0.5071				0.69
V12			0.6381			0.61
V13			0.6173			0.59
V14			0.5781			0.69
V15			0.5321			0.67
V16			0.5036			0.46
V17			0.5012			0.61
V18				0.6470		0.64
V19				0.5946		0.51
V20				0.5473		0.61
V21					0.6981	0.64
V22					0.6642	0.54
V23					0.6326	0.58
V24					0.6013	0.55

Variables	Factor Loadings					h^2
	F1	*F2*	*F2*	*F4*	*F5*	
V25					0.5931	0.53
V26					0.5617	0.64
V27					0.5521	0.61
V28					0.5323	0.54
V29					0.5211	0.54
V30					0.5012	0.59

Source: Computed Data
Note: Factors has been extracted using Principal Factor Method with Orthogonal Varimax Rotation

It could be seen that total number of factors extracted was five. Ratios are closely related to particular factor and are grouped. Thus, ratios which have the highest and significant loading in each factor are grouped. The column represented by h^2 is communality (h^2). Communality (h^2) is obtained by the sum of the squares of the factor loadings in each ratio. Subsequently, the results are interpreted by carefully examining the significant loadings for ratios around each factor.

Factor I (F1)

'Approach of staff in loan sanctioning procedure is satisfactory' (0.7962), 'Loan sanction process of bank is short' (0.6145), 'Procedure for analyzing credit worthiness to sanction loan is reliable' (0.5762), 'Amount sanctioned by the Cooperative banks is appropriate' (0.5171) and 'Bank disburse loan in appropriate time' (0.5701) are the variables with high loadings on Factor I. As the above variables are related to the loan application and procedure for sanctioning, Factor I is characterized as *"Sanctioning of Loan"*.

Factor II (F2)

In the second factor, 'Loan documentation of Bank is short' (0.6912), 'Collateral security requirements are reliable' (0.6231), 'Requirement of personal guarantor is relevant' (0.5736), 'Interest rates are reasonable' (0.5441), 'Terms of loan are easily understandable' (0.5362) and 'Interest charged on reducing balance by the bank' (0.5071) have the highest significant positive loadings. As the above variables are related to documents, securities and interest, Factor II is termed as *"Loan Documentation, Interest and Security"*.

Factor III (F3)

'Cooperative banks follow up and check financial planning of the borrowers' (0.6381), 'Cooperative bank gives timely repayment reminder' (0.6173), 'Repayment schedules fixed by the bank is proper' (0.5781), 'Loan recovery mechanism is proper' (0.5321), 'Adequate

time extension is given by bank for payment of loan installments when needed' (0.5036) and 'Appropriate action is taken by the bank for recovery of loan' (0.5012) are the variables with the highest loadings on Factor III. All the above variables are related to repayment, follow-up and recovery, Factor III is named as *"Follow-up, Repayment and Recovery"*.

Factor IV (F4)

In the fourth factor, 'Queries are resolved within reasonable time by cooperative banks' (0.6470), 'Cooperative bank undertakes social awareness programs' (0.5946) and 'Loan installments and outstanding balance can be easily seen though internet' (0.5473) have the highest factor loadings. As these variables relate to the adequacy services and facilities provided by cooperative banks, Factor IV is characterized as *"Services and facilities"*.

Factor V (F5)

In the fifth Factor (F5), 'Subsidies and concessions provided by Government are satisfactory' (0.6981), 'the Government should allot more funds' (0.6462), 'Government's policy in providing agricultural finance promotes development of farmers' (0.6326), 'Kisan Credit Card and RuPay Kisan card is an appreciable scheme' (0.6013), 'Financial assistance for acquisition of capital asset is not adequate' (0.5931), 'Capital investment subsidy doesn't motivates new start ups' (0.5617) , 'Interest subvention scheme and incentives are appropriate' (0.5521) , 'Bank officers grant further loan without repayment of earlier loan' (0.5323), 'Adequate system are there to check mis-utilization of loan amount' (0.5211) and 'Borrowers are not treated on par with the agricultural sector and non-agricultural sector' (0.5012) have the highest loadings. As the above variables relate to policies and programmes, Factor V is named *"Schemes and Programmes"*.

6.3. Level of Satisfaction

In this section, an attempt has been made to analyze the levels of satisfaction of the borrowers with regard to the loan and advances of the district central cooperative banks. Attitude that defines level of satisfaction cannot be measured in absolute terms. It depends on the relation between expectation and outcomes. Individual Psychology, emphasized that a person's attitude toward the environment had a significant influence on his or her behaviour and behaviour is a dependent factor of his or her level of satisfaction. In the present study, the satisfaction of the borrowers, (with sample 450) has been measured with the help of 30 statements by adopting the Likert Scale.

The satisfaction level of the borrowers has been categorized in three heads namely, lowlevel, medium level and high-level satisfaction for the purpose of analysis. For this the total score value of 450 respondents is calculated. The total score value for each respondent is

determined. The arithmetic mean ($\overline{X}$) and the standard deviation (σ) were calculated for 450 observations of score values of the respondents (borrowers).

The computed arithmetic mean ($\overline{X}$) was 106.18 and the standard deviation (σ) was 17.31. The score values greater than or equal to ($\overline{X}$ + σ) and the score values less than or equal to ($\overline{X}$ - σ) have been classified as high-level satisfaction and low-level satisfaction respectively. The scorevalues in between ($\overline{X}$ + σ) and ($\overline{X}$ - σ) have been classified as medium level satisfaction.

($\overline{X}$ + σ) = (106.18 + 17.31) = 123.49 = 123 and above are treated as high level satisfaction. ($\overline{X}$ - σ) = (106.18 - 18.11) = 88.07 = 88 and below are treated as low level satisfaction.

($\overline{X}$ -σ) to ($\overline{X}$ +σ) = Scores between 88 and 123 are treated as medium level satisfaction.

Table 2 shows the classification of the respondents according to their levels of satisfaction towards availing and repaying agricultural loan in Cuttack District of Odisha.

Table 2: Level of Satisfaction and the Number of Respondents

Level of Satisfaction	No. of Respondents	Percentage
High	97	21.56%
Medium	232	51.56%
Low	121	26.89%
Total	450	100.00%

Source: Computed data

From the above table 2, it is clearly observed that a total of 232 (51.56%) of the borrowers have a medium level of satisfaction on policies and services related to financial assistance provided by cooperative banks, 121 respondents (26.89%) have low level of satisfaction and only 97 respondents (21.56%) have high level of satisfaction, so majority of respondents have a mediumlevel of satisfaction towards availing and repaying agricultural loan in Cuttack District of Odisha.

6.4. Factors Influencing Level of Satisfaction (Chi-Square Test)

An attempt has been made here to test whether factors like gender, age and educational qualification of borrowers influencesthe satisfaction level of the borrowers. For this, the Chi-square test has been employed. The test looks the frequencies obtained and compares them with the frequencies that might expect given hypothesis. The null hypothesis is as follows:

There is no significant difference between the observed and expected frequencies. It is calculated by adopting the following formula.

6.5. Gender and Level of Satisfaction

Table 3: Gender and level of Satisfaction

Gender	High		Medium		Low		Total	
	Count	*%*	*Count*	*%*	*Count*	*%*	*Count*	*%*
Male	88	90.72	192	82.76	104	85.95	384	85.33
Female	9	9.28	40	17.24	17	14.05	66	14.67
Total	97	100	232	100	121	100	450	100

χ^2 = 3.5159

Source: Computed Data

From the table 3, it can be seen that out of 384 male respondents, 192 respondents have medium level of satisfaction, 104 respondents have a low level of satisfaction and 88 respondents have a high level of satisfaction and out of 66 female respondents, 40 respondents have a medium level of satisfaction, 17 respondents have a low level of satisfaction and 9 respondents have a high level of satisfaction. Further the total respondents of 97 no's from 450 respondents have high level of satisfaction out of which 88(90.72%) were male respondents and 9 (9.28%) were female respondents. 232 respondents have medium level of satisfaction out of which 192(82.76%) were male respondents and 40(17.24%) were female respondents. 121 respondents have low level of satisfaction out of which104 (85.95%) respondents were male and 17(14.05%) respondents were female.

To test the null hypothesis that there is no significant relationship between the gender of the respondent and the level of satisfaction based on attitude of borrower, the Chi-square test has been applied and the calculated Value is 3.5159, table value at 5 per cent level (T.V.) 5.991 and degrees of freedom is 2. As calculated Chi-square value is less than the table value, the null hypothesis is accepted. Thus, it may be concluded that there is no significant relationship between level of satisfaction of the borrowers and the gender of the respondents.

6.6. Age and Level of Satisfaction

Table 4: Age and Level of Satisfaction

Age	High		Medium		Low		Total	
	Count	*%*	*Count*	*%*	*Count*	*%*	*Count*	*%*
Below 25	7	7.22	20	8.62	13	10.74	40	8.89
25-40 years	39	40.21	85	36.64	50	41.32	174	38.67
40-55 years	35	36.08	71	30.60	39	32.23	145	32.22
Above 55	16	16.49	56	24.14	19	15.70	91	20.22
Total	97	100%	232	100%	121	100%	450	100%

χ^2 = 5.6045

Source: Computed Data

Table 4 depicts that the respondents who belong to the age group 25-40 years have high level of satisfaction i.e., 40.21% while the respondents below 25 year constitutes the minimum i.e., 7 respondents (7.22%) have high level of satisfaction. The respondents of the age between 25-40 years and 40-55 years have the majority in medium and low level of satisfaction. Out of 232 respondents who have medium level of satisfaction 85 respondents (36.65%) belongs to the middle age group of 25–40-year, 71 respondents (30.60%) belongs to the upper middle age group i.e., 40-55 years, 56 respondents (24.14%) belongs to old age group i.e., above 55 years and only 20 respondents (8.62%) belongs to young age group i.e., below 25 years. Out of 121 respondents who have low level of satisfaction 50 respondents (41.32%) belongs to the middle age group of 25–40-year, 39 respondents (32.23%) belongs to the upper middle age group i.e., 40-55 years, 19 respondents (15.70%) belongs to old age group i.e., above 55 years and only 13 respondents (10.74%) belongs to young age group i.e., below 25 years.

To test the null hypothesis that there is no significant relationship between age of the respondents and the level of satisfaction based on attitude of the borrowers, the Chi-square test has been applied and the calculated Value is 5.6045, table value at 5 per cent level (T.V.) 12.592 an degrees of freedom is 6. As calculated Chi-square value is less than the table value, the null hypothesis is accepted. Thus, the analysis says that there is no significant relationship between age of the borrower and the attitude level of satisfaction.

6.7. Educational Qualification and Level of Satisfaction

An educated person can easily understand the loan documents, sanctioning process and other policies and programmes of the bank. The respondents education is classified in four categories. They are illiterate (no formal education), Under Matric (School level), Under Graduate (College level) and Graduate and above (University level).

Table 5: Educational Qualification and Level of Satisfaction

Educational Qualifications	High		Medium		Low		Total	
	Count	%	Count	%	Count	%	Count	%
Illiterate	35	36.08	39	16.81	23	19.01	97	21.56
Under Matric	17	17.53	72	31.03	35	28.93	124	27.56
Under Graduate	15	15.46	51	21.98	27	22.31	93	20.67
Graduate or above	30	30.93	70	30.17	36	29.75	136	30.22
Total	97	100%	232	100%	121	100%	450	100%

χ^2 = 18.5755

Source: Computed Data

Table 5 depicts that the respondents having no formal education i.e. who are illiterate have highest ratio in high level of satisfaction i.e.35 respondents (36.08%) out of total

97 respondents having high level of satisfaction and respondents having qualification "Graduation or Above" have near to the highest ratio in the high level of satisfaction i.e. 30 (30.93%) while the respondents having qualification "Under Graduate" have lowest ratio in the high level of satisfaction i.e. 15(15.46%) and the respondent having qualification "Under Matric" are only 17(17.53%) out of the total respondents of high level of satisfaction which is near to the lowest ratio of high level of satisfaction. Out of 232 respondents who have medium level of satisfaction 72 respondents (31.03%) having qualification "Under Matric", 70 respondents (30.17%) having qualification "Graduate or above", 51 respondents (21.98%) having qualification "Under Graduate" and only 39 respondents (16.81%) having no formal education i.e., illiterate. Out of 121 respondents who have low level of satisfaction, 36 respondents (29.75%) having qualification "Graduate or Above", 35 respondents (28.93%) having qualification "Under Matric", 27 respondents (22.31%) having qualification "Under Graduate" and only 23 respondents (19.01%) having no formal education i.e., illiterate.

To test the null hypothesis that there is no significant relationship between educational qualification of the respondents and the level of satisfaction based on attitude of the borrowers, the Chi-square test has been applied and the calculated Value is 18.5755, table value at 5 per cent level (T.V.) 12.592 and degrees of freedom is 6. As calculated Chi-square value is greater than the table value, the null hypothesis is rejected. The Chi-square value says that there is a significant relationship between the educational qualification of the respondents and their response (attitude) regarding the satisfaction level of borrowers of district central cooperative banks.

7. FINDINGS

Individual Psychology, emphasized that a person's attitude towards the environment had a significant influence on his or her behaviour and behaviour is a dependent factor of his or her level of satisfaction. 51.56% of the borrowers have a medium level of satisfaction towards availing and repaying agricultural loan in Cuttack District of Odisha. 26.89% have low level of satisfaction and 21.56% have high level of satisfaction, so majority of respondents have a medium level of satisfaction. Educational qualification of the borrowers has influence on the level of satisfaction based on attitude of the borrowers while gender and age of the borrowers do not influence the level of satisfaction. It can be inferred that education is a pivotal stimulus in banking business. In factor analysis, 'Approach of staff in loan sanctioning procedure is satisfactory', 'Queries are resolved within reasonable time by cooperative banks.', 'Borrowers are not treated on par with the agricultural sector and non- agricultural sector.' are the variables influencing the attitude of the borrowers to the lending service of District Central Cooperative Banks.

8. SUGGESTIONS

A proper loan recovery mechanism should be adopted by the DCCBs and adequate steps should be taken to recover Non-performing Assets. As NPA has direct and negative effect on bank profitability (Nagaraja and Madegowda, 2015; Hazarika, 2019). Such ensuing issues should be halted. Suitable actions should be taken against defaulters under government sponsored programmes for the recovery of overdues. The practice of further sanctioning of loans without repayment of earlier loan should be looked carefully. Varalakshmi and Deepika (2016) suggested that the bank should modify its loan sanctioning policy to completely satisfy its borrowers.

Proper steps should be taken to stop misuse of interest subvention scheme by the farmers. An ethical environment should be created among the farmer members of PACS to repay loans and not to anticipate loan waiver schemes from government. Cooperative banks should follow up borrowers and check financial planning of the borrowers for repayment of loans. To take proper action against defaulters, a list of defaulters should be prepared and circulated among the banks and also be listed in website. Borrowers who are prompt in repaying the loan should be acknowledged and rewarded at the credit recovery camps, to motivate other borrowers to repay loan properly. On the other side the procedures should be simplified to attract the marginalised community. Mishra and Mohapatra (2017) rightly observed that simplification is required to alleviate the condition of marginal, tiny and tribal farmers. They must be properly linked to Self-Help Groups.

9. CONCLUSION

The best practices adopted by various banks have given positive results to them resulting in not only their sustainable viability, but also enabling them to serve their members better. The cooperative banking sector has made significant strides in the field of rural credit through its short term and long-term structure which continues to play a crucial role in dispensation of credit for agricultural activities and rural developments. Cooperatives are definitely a solution for the lower strata of the society. As the philosophy, cooperative will exist till the existence of the human base but it is failure due to the human factor so to help the policy makers in decision making for the betterment of cooperative banks, psychological study of the borrowers plays a vital role. Behaviour that makes the rural consumer feel valued and respected, the dignity of the individual is preserved. On the basis of the data analyzed and interpreted, it can be concluded that the borrowers have an average level of satisfaction on lending practices of district central cooperative banks. Cooperative banks should understand the hidden concern of borrowers and update their policies to enhance the credit facilities, recover the NPAs and provide adequate satisfaction to borrowers.

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Operational Analysis of Select Cooperative Banks of DCCBs in the KBK Region

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Abstract: Cooperative banking is a kind of banking that plays a vital role in the banking system. Cooperative banks play important role in the Indian economy, in rural area and urban area through their service to farmers & small size organization, and self-employed, traders & businessmen. Cooperative Banks provided financial help to the customer and play the important role to facilities the farmer and customer in a different way such as agricultural and non-agricultural sector, where a farmer getting the better facilities to increases his condition which helps to buying the good seeds and fertilizer for the farming at the time of cultivation. The primary objective of the study is to make an operational analysis of cooperative banks in KBK Districts. Secondary data have been used for the study purpose. A Comparison has been made among the banks on the basis of loans and advances and NPA management. Kruskal-Wallis and Anova are applied for such purpose after confirming normality and homogeneity of the data. It is found that there is no difference among the banks in regard to loans and advances. It is also inferred that there is difference among the select banks in regard to NPA management.

Keywords: Cooperative Banks, Agricultural Sector, KBK Region, Financial Help

JEL Codes: E50, L25, G21

1. INTRODUCTION

The cooperative bank is an institution established on a cooperative basis and dealing in the ordinary banking business. Like other banks, cooperative banks are funded by collecting funds through shares, accept deposits, and grant loans. The Cooperative banks issue shares of unlimited liability. In a cooperative bank, one shareholder has one vote regardless of the number of shares he may hold. The Cooperative banks are generally concerned with the agricultural credit and supply financial assistance for agricultural and rural activities. Cooperative banking

in India is federal in structure. Primary credit societies are at the lowest rung. Then, there are central cooperative banks at the district level and state cooperative banks at the state level. Cooperative credit societies are located within the villages cover entire country.

Cooperative banks act as a shield for the poor section. It transforms small businesses and gives them a chance to compete and stand in the market. It mainly focused on small-scale industries and agricultural activities which include minor irrigation, farm mechanization, dairy farming, horticulture, fisheries, poultry farming, goat/sheep, land development, SHG farm sector, production of fertilizers, housing, personal loan, and weavers, etc. Normally banks are not willing to lend to the weaker section. So, RBI put them into a priority for the banks to lend them. Financial institutions are always willing to provide loans to non-priority sectors. But they are not ready to give loans to the priority sector because the poorest and most fragile parts are belonging to the priority sector. The main objective of the priority sector is to ensure that assistance from the banking system is provided to those sectors of the economy that have not received sufficient institutional funds. Cooperative banks are a single-stop shop for the farmers where one can get the loan, farm machinery, and technical support to storage facilities and marketing of products.

The present study on the financial performance analysis of select Cooperative Banks of DCCBs in the KBK region mainly focused on deposits, source of working capital and branch productivity.

2. REVIEW OF LITERATURE

The paper found that higher gross non-performing assets in banks, coupled with lower per capita income, physical infrastructure deficits and higher proportion of unorganized sector, pose challenges to the banking sector for higher credit flow (Behera, 2022). It conclude that the rural entrepreneurs were not adopted their development skill for provide the rural area problem solved where cooperative banks were most important playing in role in the rural area (Gurav, 2020). It shows that the relation between management efficiency and profitability the descriptive analysis the relation between the management ability and profitability of the Non-Interest Income to Working Fund (NNIWF) was very well performance and positively growth (Mallick & Das, 2020). It stated that the DCCBs are working efficiently for improving the productivity of their respective banks. In this context, the state and central government should perceive the cooperative banking model as a proper structure for achieving the goals of financial inclusion in India (Mittal, 2018). At the same time, in terms of assisting rural masses, only a few banks are giving an excellent performance which is clear from performance indices (Garg, 2018). The success of rural credit in India largely depends on the financial strength of the banks. It is necessary to study the financial growth and performance of Regional Rural Banks in India. The present study is focused on key performance indicators analysis such as

Branch network of RRBs, Deposit, Loans and its role in agricultural credit. This study is an attempt to analyses the financial performance of RRBs for a period of six years from 2008-09 To 2015-16 (Seena & Devi, 2018). It analyses that the bank has adequate liquidity to meet its short term as well as long term obligations.

Bank should also strive for disruptive innovative banking practices to beat other stronger competitors (Bhulal & Dhanna, 2017). It found that the rapid development of RRB has helped in reducing substantially the regional inequality in respect of banking facilities in India. The RRBs play an important role in rural areas intending to provide credit to small, marginal farmers & economically weaker sections, for the development of agriculture, trade, and industry (Kumar et al., 2017). It shows the matter of great concern for the banking industry to save against losses. In the interest of building the robust economy, not only at the grass-root level, but also all along each segment of the economic the ladder at district, state and national levels should be inter connected. (Ruchi, 2017). To explore the agricultural credit market in Odisha, which is a powerful tool for enhancing production and productivity and ensuring sustainable livelihood for the countryman, various tools of rural credit should be analysed in details (Mohanty, 2017). It stated that the financial soundness & overall performing cooperative bank has satisfactory during the study period (Narayanrao, 2017). It concluded that the significant improvement in financial performance of PACS has been evident whereas improvement in business performance has been conspicuously absent (Patel, 2017). It made an attempt to evaluate both banks from different angles so that their relative performance can be gauged. After going through all the parameters, it is calculated that HPSCB showing decrease growth it needs to increase the bank Share Capital (Tandon et al., 2017). Abhyudaya Co-operative Bank is currently focusing on for a sustainable long-term growth. The Bank has always endeavored for providing satisfactory customer service the help of the latest technology. The Bank has provided fully computerized services to its valued clients (Deshmukh, 2017). It studied that the District Central Cooperative Banks are regarding the growth rate still there are challenges and issues in this study. The Co-operative bank is just another business model and not by definition the key to success. The success of all banks, including mature co-operative banks, is ultimately determined by the level of customer/ member satisfaction, which was in turn influenced by many variables, including the quality and prices of products and services, innovative capacity, the perceived corporate social responsibility and employee attitude, knowledge and competences (Preety et al., 2016). It may be said that productivity in banking sector was significantly and positively influenced by various aspects of training and development programmes. Therefore, the planners, policy makers, and bank management need to evolve and develop the training and development programmes keeping in view the findings of the analysis (Kaur, 2016). It shows that the result obtained based on collected data were divided into two parts to make an easy understanding and one part dealt with the

general and socio-economic characteristics and the other looked for imparting on access and used to financial services, agricultural impact, and saving (Gochchyat & Mishra, 2015). It was further found that, the banking sector is increasingly using computers in strategic planning management control and operation control activities (Raju & Prabhu, 2014). It studied that the quality of services provided by the staff is satisfactory because bank catering to a small segment only and the customers are properly dealt with. This descriptive study focuses on the issue of assessment of service quality of regional rural bank (RRB) and cooperative banks in catering to the need of rural masses of the Western Odisha i.e., Bargarh and Sambalpur District. In line with the above stated purpose, this paper used the popular multi-itemed rating scale namely SERVQUAL (developed and modified by Parasuraman et al in 1985,1988, 1991 and 1994) to assess the quality of service rendered by the selected banks (Mishra, 2015).

Though there are many private & public sectors banks operating in the country, the Cooperative Banks have their own relevance in a state like Cooperative Banks in undivided Koraput-Balangir-Kalahandi district. This is due to the rural and agrarian character of the state economy. Further, their banking services are also towards costly for the rural population & hence are beyond their financial reach. The Cooperative banks offer advances at a lower rate of interest & higher rate of interest on deposit. The processing of the sanction of loan is also fast compared to other banks. Besides, the cooperative banks have a local feel & familiarity due to which the customers feel comfortable dealing with them. That is why it is imperative for the policy makers to make cooperative banking system financially vibrant & socially relevant.

3. OBJECTIVES OF THE STUDY

1. To study the farm sector and rural development of DCCBs in KBK region.
2. To explain the loans and advance of DCCBs in KBK region.
3. To evaluate NPA managements DCCBs in KBK region.

4. DATA AND METHODOLOGY

The present study based on secondary data. Mostly on published by banks annual report i.e. financial statement and other yearly performance reports. It also considers the data of various related journals, manganese and newspaper articles. The study is based on the data of ten (10) years from 2009-10 to 2018-19. Kruskal-Wallis and Anova have been applied for testing the hypothesis. Variables like loan and advances, NPA, etc are taken for such purpose. Select district central cooperative banks have been taken for the study purpose.

5. DATA ANALYSIS

5.1. Analysis of Farm Sector

Table 1: Tests of Normality of Farm Sector

Variables	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Firm_Sector_KODCCB	.152	10	.200	.922	10	.370
Firm_Sector_BDCCB	.334	10	.002	.727	10	.002
Firm_Sector_KADCCB	.180	10	.200	.914	10	.313

Source: Data Compiled in SPSS

The above table reflects normality of farm sector of three banks. The null hypothesis for normality is that data is normal. Thus, such hypothesis must be accepted and p value must be more than .05. In the above case, p value of farm sector of all the three banks under Shapiro-wilk test is more than .05. Thus, the data is said to be normal.

Table 2: Test of Homogeneity of Variances of Farm Sector

Levene Statistic	df1	df2	Sig.
6.004	2	27	.007

Source: Data Compiled in SPSS

The above table depicts homogeneity of groups. Like normality, the null hypothesis of homogeneity is that groups are homogeneous. Thus, p value must be more than .05. But, such value in the above case is .007 which is less than .05. It can be found that, groups are not homogeneous. Hence, anova cannot be applied. Non-parametric tool i.e., Kruskal-wallis test applied. The results are shown below.

Table 3: Test Statistics of Kruskal-Wallis Test of farm Sector

Test Criteria	Test Statistics
Chi-Square	.280
Df	1
Asymp. Sig.	.597

Source: Data Compiled in SPSS

The test statistics reveals a p value .597 which is more than .05. The null hypothesis i.e., there is no significant difference in performance among select banks is not rejected. The banks performance in rising but the farm sector is similar.

5.2. Analysis of Loans and Advances in Banks

Table 4: Tests of Normality of Loans and Advances

Variables	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Loans_and_Advances_KODCCB	.200	10	.200	.899	10	.214
Loans_and_Advances_BDCCB	.150	10	.200	.948	10	.646
Loans_and_Advances_KADCCB	.194	10	.200	.918	10	.342

Source: Data Compiled in SPSS

The above table reflects normality of loans & advances of three banks. The null hypothesis for normality is that data is normal. Thus, such hypothesis must be accepted and p value must be more than .05. In the above case, p value of loans & advances of all the three banks under Shapiro-wilk test is more than .05. Thus, the data is said to be normal.

Table 5: Test of Homogeneity of Variances of Loans and Advances

Levene Statistic	df1	df2	Sig.
2.260	2	27	.124

Source: Data Compiled in SPSS

The above table depicts homogeneity of groups. Like normality, the null hypothesis of homogeneity is that groups are homogeneous. Thus, p value must be more than .05. But, such value in the above case is .124 which is less than .05. It can be found that, groups are not homogeneous. Hence, the anova test was applied. The results are shown below.

Table 6: Test of Anova of Loans and Advances

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3231320952.988	2	1615660476.494	3.051	.064
Within Groups	14295630778.488	27	529467806.611		
Total	17526951731.476	29			

Source: Data Compiled in SPSS

The test anova reflects a p value .064 which is more than .05. The null hypothesis is accepted. There is no significant difference in the performance of the banks of all the three DCCBs in the KBK region in term of loans and advance is accepted. The banks have similar performance in rising of loans and advances.

5.3. Analysis of NPA Management in Banks

Table 7: Tests of Normality of NPA Management

Variables	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
NPA_KODCCB	.266	10	.044	.804	10	.016
NPA_BDCCB	.135	10	.200	.922	10	.370
NPA_KODCCB	.171	10	.200	.953	10	.701

Source: Data Compiled in SPSS

The above table reflects normality of the NPA level of three banks. The null hypothesis for normality is data is normal. Thus, such hypothesis must be accepted and p value must be more than .05. In the above case, p value of the NPA level of all the three banks under Shapiro-wilk test is more than .05. Thus, the data is said to be normal.

Table 8: Test of Homogeneity of Variances of NPA

Levene Statistic	df1	df2	Sig.
6.696	2	27	.004

Source: Data Compiled in SPSS

The above table depicts homogeneity of groups. Like normality, the null hypothesis of homogeneity is that groups are homogeneous. Thus, p value must be more than .05. But, such value in the above case is .004 which is less than .05. It can be shown that, groups are not homogeneous. Hence, anova cannot be applied. Non-parametric tool i.e., Kruskal-wallis test applied. The results are shown below.

Table 9: Test Statistics of Kruskal-Wallis Test of NPA

Test Criteria	Test Statistics
Chi-Square	12.623
Df	1
Asymp. Sig.	.000

Source: Data Compiled in SPSS

The test statistics reveals a p value .000 which is less than .05. The null hypothesis i.e., there is no significant difference in performance among select banks in regard to NPA level is rejected. The banks performance in raising deposits is similar.

non-farm sectors in state of Odisha in general and the KBK Districts in particular. These banks provide an avenue for the rural population and also the weaker section of the urban population for parking their money through deposit mobilisation and for the direct benefit transfer to their accounts.

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Critical Analysis of Financial Inclusion: A Bibliometric Study

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Abstract: The study aims to critically review systematically the existing works of literature on Financial Inclusion. It focuses on finding the research gap in the field of financial inclusion of the study. All the important articles relating to financial inclusion from 2004 to 2022 were collected from the Scopus database. These articles have been used in the bibliometric analysis. It is seen that the majority of researchers focused on the area of financial inclusion theory analysis & creation but less concentrated on major supporting areas relating to financial inclusion. The study found that new emerging areas relating to financial inclusion for future scope of research such as branchless banking, saving groups, inclusive innovation, financial self-efficacy, mobile money, entrepreneurship, financial education, inclusive finance, financial exclusion, blockchain & digital financial services, etc. This study contributes to the existing field of research relating to insights into financial inclusion from the bibliometric analysis.

Keywords: Financial inclusion, Bibliometric analysis, Microfinance, Financial self-efficacy, Entrepreneurship.

JEL Codes: O16, G2, G21, L26, Y91

1. INTRODUCTION

The developments of fiscal inclusion have constructive implications on the economy at both the macro & micro levels. Micro-level financial inclusion causes poverty reduction, improved inclusive growth & balances the sustainable development of people. Macro-level financial inclusion causes increased savings utilization, attracts firms into formal segments & ensuing tax collection increases (Koomson *et al.,* 2019). Microfinance organizations play a key role in improving women through income-generating activities. It helps women to become economically independent as well as to taking own decisions in the family & society (Zhang & Posso, 2017). Financial Inclusion refers to the use of monetary products & services at a cheap price to the people as per the requirements provided to them (Bongomin & Munene, 2019).

Financial inclusion is a vital indicator of the progress & welfare of society across the world. The priority is to provide inclusive financial services for all. G-20 Countries focused on financial inclusion as an implementor for the success of gender parity & sustainable development goals (Bhatia & Singh, 2019). Banking services are provided to rural people in economically unprivileged areas of society at an affordable cost (Bhuvana & Vasantha, 2017). Digital finance is a financial service provided to those people who have used smartphones & computer systems. It is linked with a trustable payment system (Ozili, 2018).

2. REVIEW OF LITERATURE

The study measured the importance of cooperative acts in checking the association between economic mediators & financial enclosure in rural people of Uganda. Collective action & financial mediators have a significant effect on the financial inclusion of the rural public (Bongomin *et al.*, 2018). Females' land-living proprietorship status has created demand & uses for elementary economic services significantly. It found that women have ownership of land then they got both formal & informal credit from banks & others (Balasubramanian *et al.*, 2018). Individuals' formal rules, informal restrictions, and bureaucratic declarative mindsets affect the fiscal inclusion or exclusion of rural families. The institutional framework has a major role in providing financial services to poor people. It has adopted a holistic institutional approach to including poor rural people in financial inclusion such as liberal rules & regulations, removal of informal restrictions & procedural changes (Bongomin *et al.*, 2016). Financial literateness has a productive effect on economic inclusion among people. The social network acted as intermediaries among economic literacy & financial enclosure of the underprivileged people through microfinance banks in emerging nations (Bongomin & Ntayi, 2020). Financial inclusion is a movement of providing economic services to the unbanked & unreachable areas of society (Bhuvana & Vasantha, 2016). The majority of the population comes from rural areas in India. The rural people have been facing several problems to fulfill their basic baking services necessities. To solve these problems, govt. helped to form self-help groups among poor people of similar economic backgrounds in the community of 10-20 members then SHG linkage with banking services. The main motto of SHG bank linkage is to provide financial services (Bhuvana & Vasantha, 2016). Bangladesh has succeeded in the interest-based traditional microfinance agenda worldwide. Islamic microfinance works as economic inclusion such as removing poverty, removing gender inequality & providing financial services to unbanked people of Bangladesh (Nabi *et al.*, 2017). Social inclusion has been linked to financial inclusion in several nations. It found that Asian nations have an optimistic relationship through financial inclusion. Europe & African countries have negative relationships between social inclusion & financial inclusion (Ozili, 2020).

3. OBJECTIVES OF THE STUDY

• The motto of the study is to systematically review the existing works of literature on Financial Inclusion.

• To find out the research gap in the field of Financial Inclusion.

4. RESEARCH METHODOLOGY

The study investigates the systematic method of reviewing important research papers in the areas of financial inclusion. In this study, VOSviewer software was used as a tool for the creation of network diagrams from the selected data collected from research articles by using keywords & analyzing them briefly (Galvez-Sanchez *et al.*, 2021).
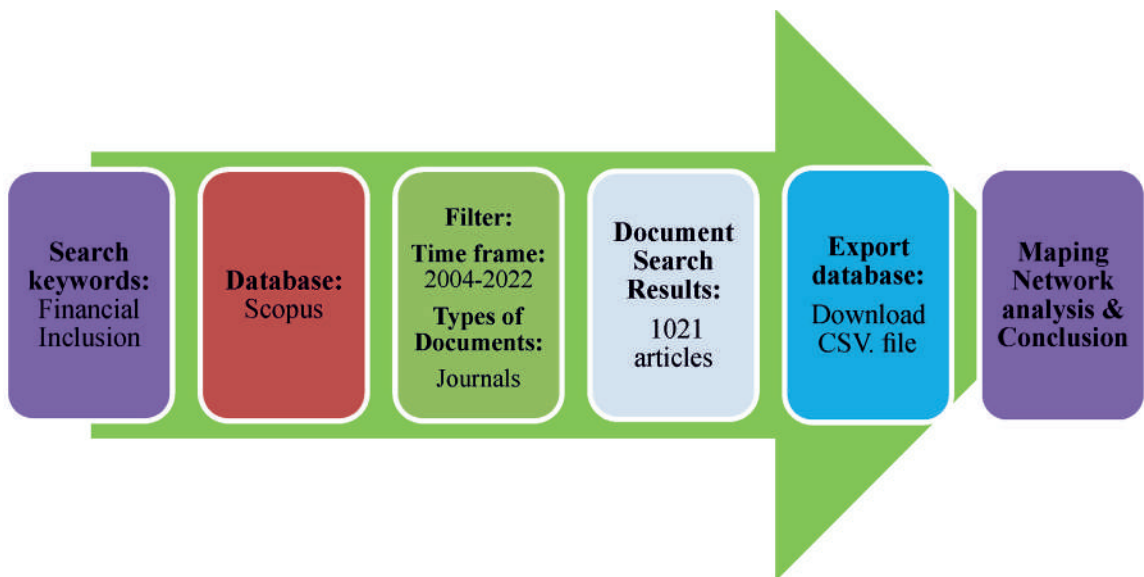

Figure 1: Materials & Methodology
Source: Primary data

Figure 1 indicates the methods & materials used in the present study. It includes 1021 articles taken from 2004 to 2022 in the fields of financial inclusion. The study used the Scopus database to extract CSV files.
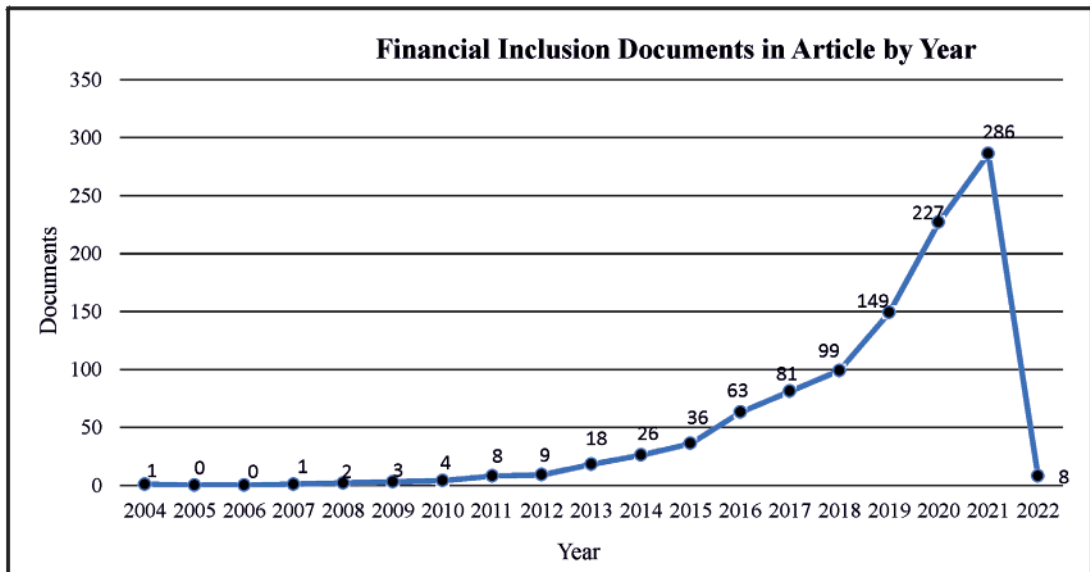
5. RESULTS & DISCUSSION

Figure 2: Financial Inclusion Documents Published in Scopus Year-wise

Source: Excel Output from Scopus database

Figure 2 indicates that the number of financial inclusion-related articles published in Scopus listed different journals year-wise between 2004 to January 2022**.**

Table 1: Top 10 Authors of Financial Inclusion Documents in Scopus from 2004 to 2022

Sl. No	Authors	Documents	Citations
1	Munene, J.C.	15	144
2	Ntayi, J.M.	12	148
3	Okello Candiya Bongomin, G.	11	111
4	Malinga, C.A.	8	119
5	Bhuvana, M.	7	33
6	Bongomin, G.O.C.	7	38
7	Vasantha, S.	7	33
8	Koomson, I.	6	72
9	Ozili, P.K.	6	154
10	Abor, J.Y.	5	107

Source: Data compiled in Excel from Scopus database

Table 1 indicates the top authors who published the highest number of financial inclusion-related articles in various Scopus-listed journals. In this study, Munene, J.C. has published the highest 15 documents in Scopus & 114 are cited in his published documents.

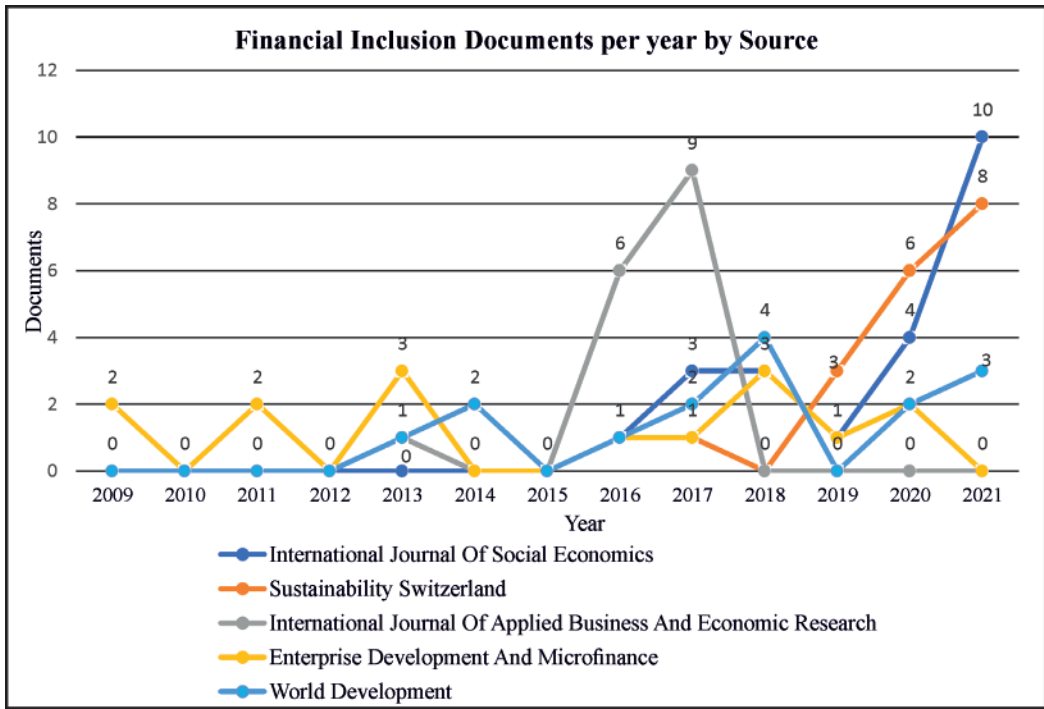**Figure 3: Year-wise Publication of Financial Inclusion Articles in Various top 5 Sources of Journals**

Source: Excel Output

Figure 3 represents the top 5 journals that publish the highest number of financial inclusion documents in Scopus in different years. The two journals have published 22 documents
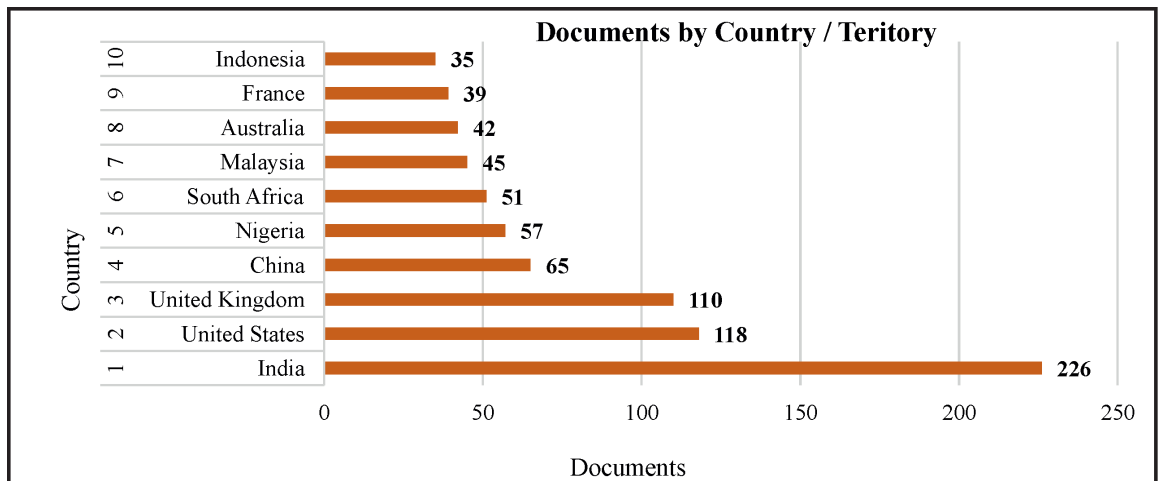

Figure 4: Top Countries published Financial Inclusion Documents in Scopus

Source: Excel Output

respectively between 2013 to 2021 such as "International Journal of Social Economics" & "Sustainability Switzerland". International Journal of Applied Business and Economic Research has published 16 documents in Scopus between 2013 to 2021. The next two journals published 15 documents each respectively in Scopus between 2009 to 2021 such as Enterprise Development and Microfinance, World Development.

Figure 4 indicates the highest number of financial inclusion documents published by top countries in Scopus. It includes India-226, USA-118, UK-110, China-65, Nigeria-57, South Africa-51, Malaysia-45, Australia-42, France-39 & Indonesia-35 documents.
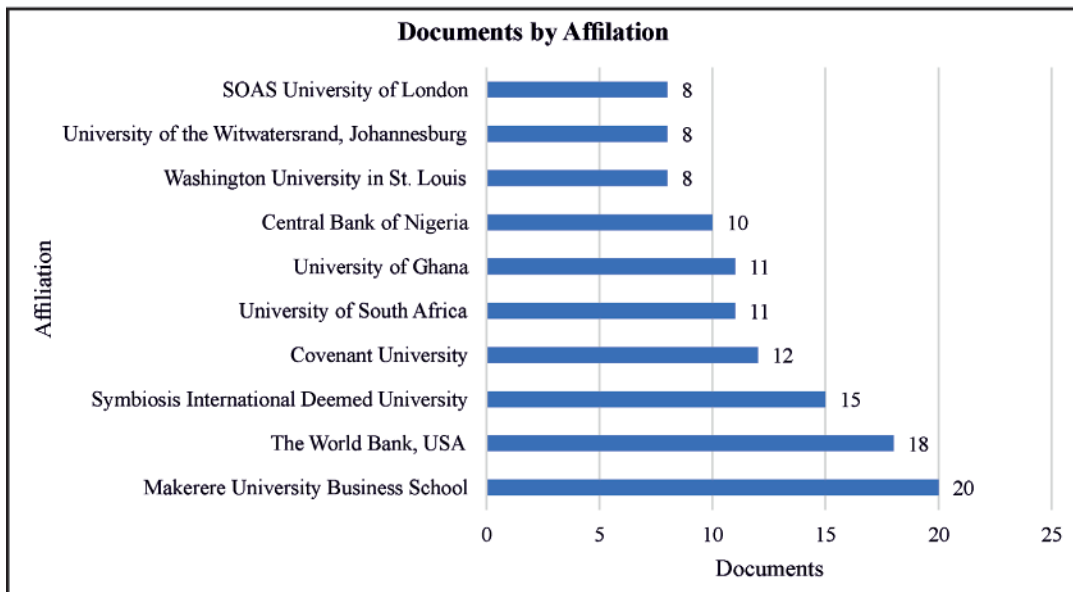
Figure 5: Highest Number of Documents Published by Affiliated Organizations
Source: Excel Output

Figure 5 indicates the top institutions have published the highest number of financial inclusion related documents in Scopus such as "Makerere University Business School-20, The World Bank, USA-18, Symbiosis International Deemed University-15, Covenant University-12, University of South Africa-11, University of Ghana-11, Central Bank of Nigeria-10, Washington University in St. Louis-8, University of the Witwatersrand, Johannesburg-8 & SOAS University of London-8".

Table 2 indicates the following agency-sponsored highest number of financial inclusion documents in Scopus such as "Bill and Melinda Gates Foundation-17, Economic and Social Research Council-16, National Natural Science Foundation of China-13, World Bank Group-10, Fundamental Research Funds for the Central Universities-8, Japan Society

Sl. No	Funding Sponsor	Documents
1	Bill and Melinda Gates Foundation	17
2	Economic and Social Research Council	16
3	National Natural Science Foundation of China	13
4	World Bank Group	10
5	Fundamental Research Funds for the Central Universities	8
6	Japan Society for the Promotion of Science	8
7	National Office for Philosophy and Social Sciences	8
8	UK Research and Innovation	8
9	National Foundation for Science and Technology Development	7
10	Department for International Development, UK Government	6

Source: Data compiled in Excel

for the Promotion of Science-8, National Office for Philosophy and Social Sciences-8, UK Research, and Innovation-8, National Foundation for Science and Technology Development-7 & Department for International Development, UK Government-6 documents".
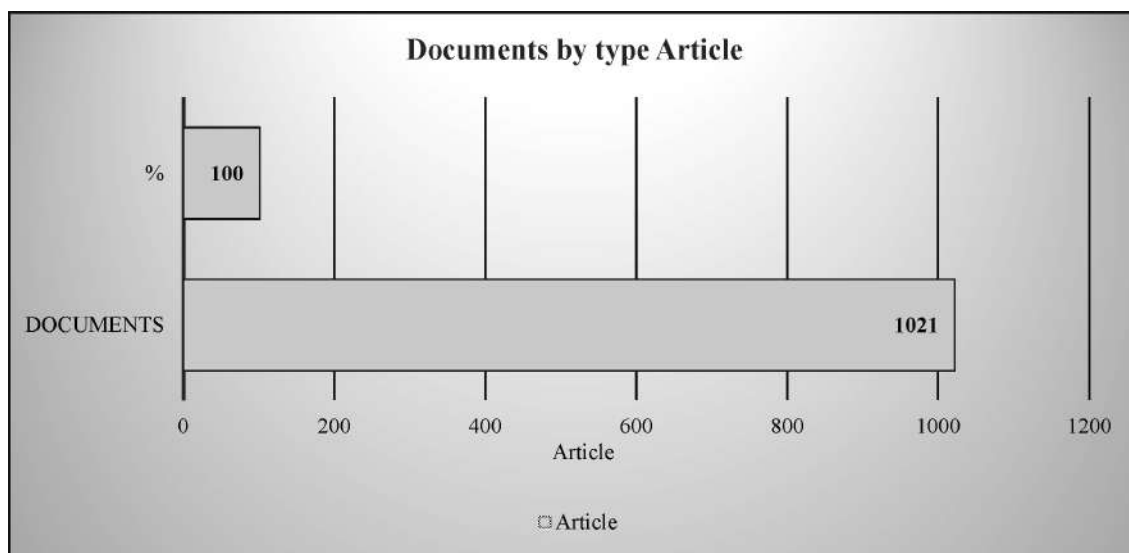
Figure 6: Financial Inclusion Keyword Search Results in Scopus Database between 2004 & 2022
Source: Excel Output

Figure 6 indicates the search results of the keyword "Financial Inclusion" in the Scopus database & gets 1021 articles after filtered data.

6. BIBLIOMETRIC ANALYSIS OF FINANCIAL INCLUSION

Figure 7: Co-authorship of Authors having a Minimum Number of 2 Documents & Minimum of 30 Citations of an Author

Source: VOSviewer Output

Figure 7 indicates the co-authorship network diagram of the authors. It found three clusters representing three different colors of the authors' group. The largest circle represents the highest number of financial inclusion documents published by authors in Scopus.
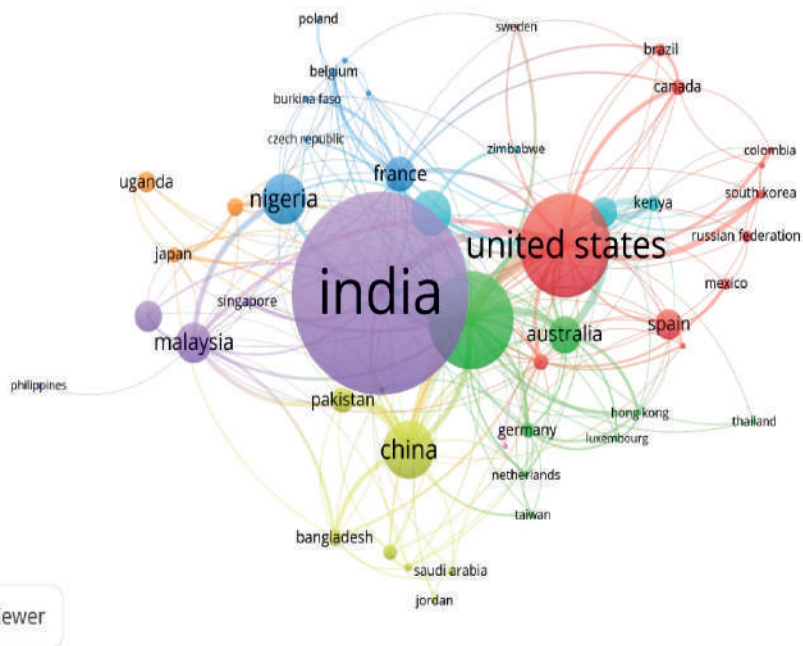
Figure 8: Co-authorship among Various Countries having a Minimum Number of 2 Documents & Minimum of 15 Citations of a Country

Source: VOSviewer Output

Figure 8 indicates the co-authorship of a network diagram of different countries publishing the highest number of financial inclusion documents in Scopus. It includes that India published the highest number of financial inclusion documents in Scopus than the USA, UK, China, & Nigeria, etc.
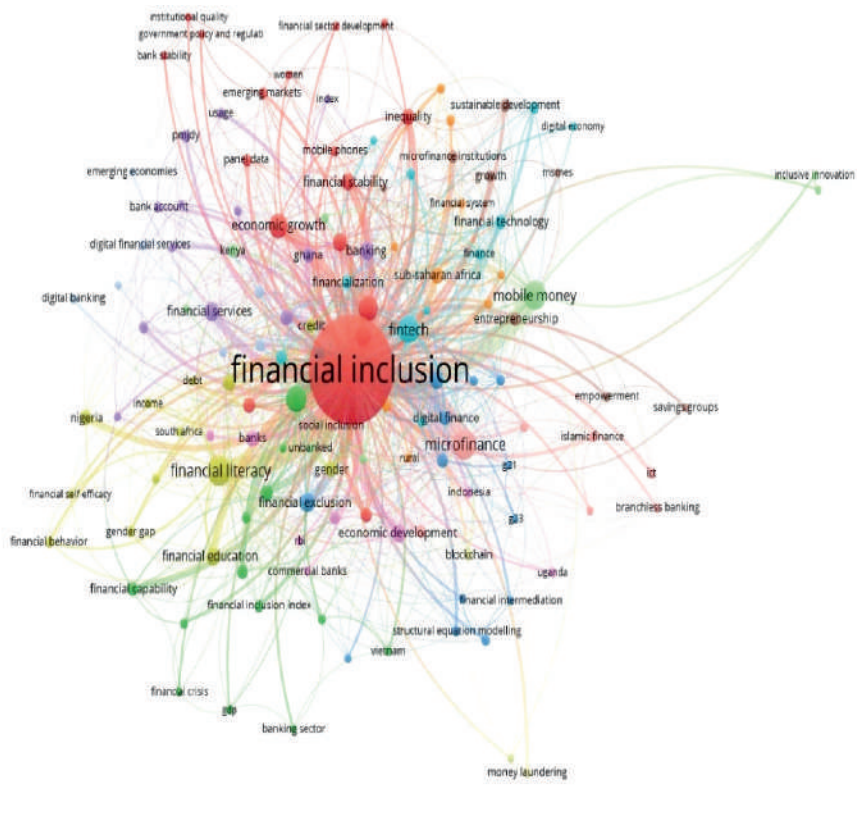
Figure 9: Co-occurrence of Author Keywords having the Minimum Number of Occurrences of a Keyword 5
Source: VOSviewer Output

Figure 9 represents the Co-occurrence of the authors' keyword having the least number of occurrences of a keyword relating to Financial Inclusion being 5. It found that out of 2243 keywords, only 133 meet the threshold. The financial inclusion keyword has the highest publication in Scopus as shown in the network diagram. But the supportive areas of financial inclusion are less focused such as branchless banking, saving groups, inclusive innovation, financial self-efficacy, mobile money, entrepreneurship, financial education, inclusive finance, financial exclusion, blockchain, microfinance, empowerment, Islamic finance, digital economy, financial behavior, financial crises & digital financial services, etc. in the present study.
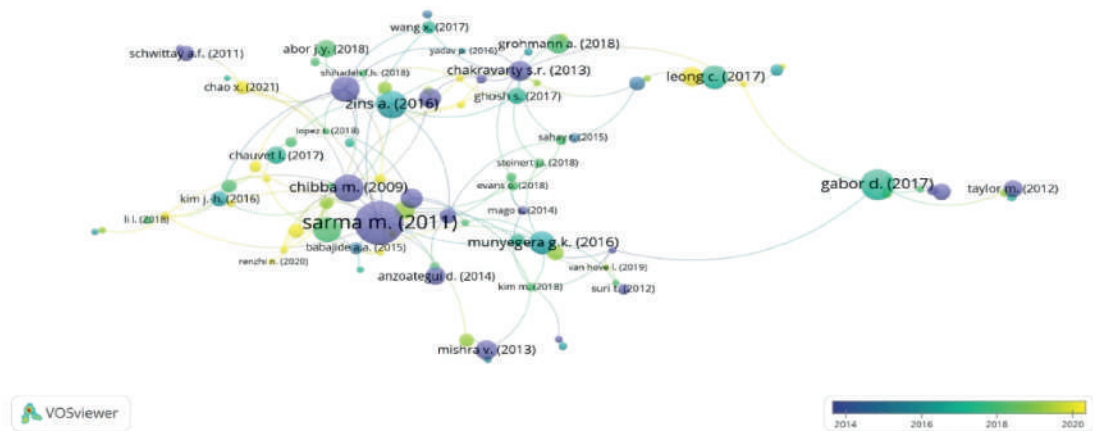
Figure 10: Citation of Documents having a Minimum Number of 15 Citations
Source: VOSviewer Output

Figure 10 indicates the citation of documents that have the least number of citations 15. It resulted that out of 1021 documents, 125 meet the threshold. A total of 125 items are not connected properly to this network. The highest 91 items are well connected with others. The network map has seen the largest circles of the author with the year representing the highest number of cited documents.

7. CONCLUSION

Financial inclusion is one of the existing concepts but it has various new emerging areas that need to be a research across the world. The importance of financial inclusion is never-ending till the existence of life & society. From the above analysis, it summarized that in the last few years from 2016 to 2021 more number of financial inclusion documents published in Scopus by the following countries such as India-226, USA-118, UK-110, China-65, Nigeria-57, South Africa-51, Malaysia-45, Australia-42, France-39 & Indonesia-35 documents, etc. It suggests that if countries have not focused on research & development in financial inclusion then the lifestyle & standard of living of people have not improved. It would need to focus on the countries to do more research work in this field. It suggests the top-ranking countries which have less focused on the areas of financial inclusion such as branchless banking, saving groups, inclusive innovation, financial self-efficacy, mobile money, entrepreneurship, financial education, inclusive finance, financial exclusion, blockchain, microfinance, empowerment, Islamic finance, digital economy, financial behavior, financial crises & digital financial services, etc. required to be more attention & constant effort in this fields. if the researchers found lesser work areas in their interested field with the help of a network map, then they will give more attention to such areas for their research to be more significant & effective in the future.

8. LIMITATIONS OF THE STUDY & SCOPE OF UPCOMING RESEARCH

The study has used only one keyword such as financial inclusion but researchers will choose any other keyword search for analyzing bibliometric analysis. The data has been collected & used from the Scopus database only in this research but researchers will go for data collection from the Web of Sciences, PubMed, Lens, Dimensions & Scopus databases. VOSviewer software will use for preparing network diagrams in this study but many paid software is available for bibliometric analysis. When data are downloaded from the Scopus database in CSV. File, the filter option chooses only the article under the documents type in this study but you can select all options under documents type such as Article, Conference paper, Book Chapter, Review paper & Book during filter then download CSV. file for bibliometric analysis.

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A Comparative Study on CSR Spending of Select Indian Private Sector Companies and Public Sector Undertakings

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Abstract: Corporate Social Responsibility is an effective way of achieving and maintaining sound business management. By practicing social responsibility, a company can enhance its own economic value and brand image as well as the benefits to society. In addition, companies and other organizations are required to have accountability towards stakeholders such as consumers, investors, employees, local residents, etc. while utilizing the resources of society. With the introduction of Section 135 in the Companies Act 2013, India became the first country to have statutorily mandated CSR for specified companies. The present study proposes to analyze and present the corporate social responsibility strategies of selected public sector undertakings and private companies for the socio-economic development of India by contributing through CSR activities. The present study covers a period of 3 years, which starts from the year 2019-20 to 2021-22. The study used secondary data such as annual reports of NTPC, TCS, INFOSYS, ONGC, SAIL, and COAL INDIA. The objective of the study is to identify the top companies spending on CSR in India and to find out whether there is a significant difference in CSR spending of privately owned Companies and Government runs corporations. It was found that private companies are spending significantly more than government-owned corporations.

Keywords: CSR, Companies Act 2013, CSR Expenditures, private companies, government-owned corporations.

JEL Codes: M41, O40, H20

1. INTRODUCTION

Corporate social responsibility is a corporate strategy where the business looks at how it can best serve society and target moral issues. This can put the firm in a more favourable light among the public, thereby improving public relations and its brand image. It can include raising money for charity or promoting good causes in its store. As per the scope of the Indian Company's Act sec 135 all business firms with a total Asset of ₹500 crores or more, or turnover

of ₹1,000 crores or more or net profit of ₹5 Crores or more, are required to spend through 2% of the normal net profit of the first three years on corporate social responsibility activities. These corporate activities would have a social, financial, and ecological effect or an approach to offer back to the general public, for example, promoting gender equality, women empowerment, promoting education, eradicating hunger, poverty, malnutrition, rural development Projects, and conserving natural resources among others. Embracing CSR increases customer retention and loyalty increases employee engagement, improves brand imaging, attracts investment opportunities and top talent, and makes a difference in bottom-line financials.

Considering the Indian context, companies deal with several socio-economic issues along with their business problems. How top public and private companies are spending their profits on CSR activities very much essential to know. The present research triggered this problem.

2. LITERATURE REVIEW

The growth and the key challenges faced while trying to deliver the activities of CSR (Jaysawal and Saha, 2015). CSR has proved to be an important landmark in the arena of peaceful co-existence of Business and Society. The study analyzed the impact of CSR on corporate performance using a Multivariate technique. The CSR performance of a Company has a positive impact on corporate performance, and the impact becomes more significant with the passage of time (Garg, 2016). CSR disclosures transparency among top Indian Companies (Kumar and Kidwai, 2018). The present paper analyses the extent of CSR Disclosures made by the top 100 ET2014 companies on their websites. It found that over 90% of the companies analyzed an adequate level of transparency in various CSR disclosures. Developed countries have higher CSR Disclosure scores than developing countries. The overall CSR disclosure mean score of developed countries is 53.5%, followed by that of developing countries at 49.4% (Bhatia & Makkar, 2019). As per the study, It is tough for the researcher to draw any conclusion, as there is a difference between introducing the act and Its feasibility at the grass root level (Vishwakarma, 2019). CSR initiatives by Indian companies are a great move toward sustainable development and also contribute to achieving the UN's Sustainable Development Goals (Ashoka, *et al.* 2019).

3. RESEARCH GAP

The term corporate social responsibility has evolved by becoming a vital part of an organization's process. The route of globalization seems to have created competition among the business entities to perform as per international trade practices. In this present scenario, many public sector units contribute a portion of their profit towards the development of the community and society. CSR in India has always been influenced by the changing guidelines and reports issued by the government. The research has been done till 2017 in this field. So, I have extended this research from 2019 to 2021.

4. OBJECTIVE

To find out whether there is a significant difference in CSR spending between privately owned companies and government-run corporations.

5. HYPOTHESIS

H_0: There is no significant impact of ownership of corporations on CSR expenditures.

H_1: There is significant impact of ownership of corporations on CSR expenditures.

6. RESEARCH METHODOLOGY

The study is limited to 6 companies (3 public and 3 private companies) such as Private Companies-NTPC, INFOSYS, TCS, and Public Companies- ONGC, SAIL, and COAL INDIA Ltd. The study covers 3 years beginning from the year 2019 to 2021. Secondary data are collected mainly from annual reports of selected companies, sustainability reports of companies, CSR reports of companies, official websites of companies, etc. The statistical tools used as mean, ANOVA. For carrying out statistical analysis MS Excel 2021 application package has been used**.**

7. DATA ANALYSIS AND INTERPRETATION

Table 1: CSR Expenditure by Selected Indian Companies

CORPORATE	*CSR Expenditure in INR (Rs. In Crores)*		
	2018-19	*2019-20*	*2020-21*
ONGC	614.64	607	552.6
SAIL	31.18	27.56	25
COAL INDIA	416.47	587.84	553.85
NTPC	285.46	304.92	418.87
INFOSYS	342	360	362
TCS	542	600	674
RELIANCE	904	1022	922

Source: Secondary Data

The above table shows the CSR expenditures by top selected government and private companies in India i.e. ONGC, SAIL, COAL INDIA, NTPC, INFOSYS, TCS, and Reliance from the year 2018-19 to 2020-2021.

ONGC

The Indian public sector multinational company, Oil and Natural Gas Corporation (ONGC) has spent Rs 607 Crore on activities under Corporate Social Responsibility (CSR) in the

financial year 2019-20. Its average net profit for the past three financial years stood at Rs 28,590.70 Crore and its prescribed CSR expenditure (2% of the past three year's net profit) for the financial year 2019-20 was calculated as Rs 571.814 Crore. However, the company spent Rs 607 Crore this year. In the Financial year 2018-19, the company spent Rs 614.64 Crore on its CSR activities. The total CSR expenditure of the corporation which was Rs 525.9 crore in 2016-17 dropped to Rs 503.4 crore in the next financial year but again rise to Rs 614.6 crore in 2018-19. It fell to Rs 607 crore in 2019-20 only to further drop to Rs 552.6 crore in 2020-21.

SAIL

Table 2: CSR amount spent by SAIL

Sl. No.	SAIL CSR Project	2018-19	2019-20	2020-21
1	Education	1203	883	188
2	Health Care	484	810	2810
3	Livelihood Generation	271	133	65
4	Women Empowerment	47	51	12
5	Drinking Water	3	47	10
6	Sanitation	73	28	33
7	Sports	79	124	35
8	Art & Culture	539	352	41
9	Rural Development	184	156	248
10	Social Security	35	33	17

Source: Secondary data

The above table shows the details of item-wise spending of Corporate Social Responsibility (CSR) amount by Steel Authority of India Limited (SAIL) during the last three years as follows.

COAL India Ltd.

CIL has an exclusive policy for Corporate Social Responsibility that is aligned with the Companies Act, 2013 to measure its triple bottom line i.e. People, Planet & Profit. Coal India Limited (CIL), a public sector coal mining company has spent Rs. 553.85 crores during the year 2020-21 on corporate social responsibility (CSR) activities, impacting thousands of beneficiaries.

CSR Expenditure of Coal India Ltd. for the previous 3 years as mentioned below.

Table 3: CSR spending amount of Coal India Ltd.

Year	CSR Expenditure (Rs. In Crores)
2020-21	553.85 Cr
2019-20	587.84 Cr
2018-19	416.47 Cr.

Source: Secondary Data

With amended Companies (CSR) Rules, 2014 coming into effect from 22.01.2021, all CSR projects which have outlaid more than Rs. 1 crore and have been completed at least one year back will be assessed for their impact through external agencies. Subsidiaries of CIL have engaged reputed institutes for the impact assessment of their major CSR projects. Due to Covid-19 pandemic-induced restrictions, impact assessment studies could not be taken up in FY 20-21. Subsidiaries will also be conducting impact assessment studies during FY 21-22 for their projects with an outlay of more than Rs. 1 crore.

NTPC

NTPC Limited, a premier PSU under the Ministry of Power spent Rs. 304.92 Crore (Rs. 285.46 Crore in 2018-19) during the financial year 2019-20 towards Corporate Social Responsibility (CSR) initiatives, which surpassed the prescribed two percent amount of Rs. 252.68 Crore, thus achieving a CSR spend of 2.41%.

Rs. 1625 Crore spent on community development for R&R.

During the year, about 500 villages and more than 450 schools benefitted from various CSR initiatives at different locations. These CSR initiatives have touched, in one way or the other, the lives of around 18 lakh people, residing in remote locations according to the annual report.

INFOSYS

Infosys Limited, a digital services and consulting conglomerate has spent Rs. 342 crores as against its prescribed CSR expenditure of Rs 340 crore (2% of the net profit of Rs. 17,018 Cr) towards various schemes of Corporate Social Responsibility (CSR) as prescribed under Section 135 of the Act., its Annual Report for the Year 2018-19 revealed. Infosys Limited, a global leader in next-generation digital services and consulting conglomerate, has spent Rs 360 crore on various Corporate Social Responsibility (CSR) programmes during FY 2019-20, the company's annual report revealed. The previous year's CSR expenditure was Rs. 340 crore and a significant hike in CSR spending in the year 2020-21 from 360 crore to 362 crores.

TCS

The CSR initiatives of the Company are executed by a skilled team who ensures impact-focused implementation, monitoring, and reporting. Successful adoption of programs is evidenced by the following impact achieved in its strategic programs:

23,800 rural youth are employed through Youth Employment Program.

325,000 villagers supported with digital services by 466 Bridge IT entrepreneurs.

1.07 million individuals, including over 70,000 prison inmates, made literate through the Adult Literacy Program.

Table 4: CSR spending of TCS

Year	CSR Spending
2020-21	Rs. 674 Crores
2019-20	Rs. 600 Crores
2018-19	Rs. 542 Crores

Source: Secondary Data

The above table shows the three years of CSR amount spent by TCS as mentioned.

Reliance

Reliance Industries Ltd spent Rs 1,140 crore in the fiscal ending March 2021 on corporate social responsibility (CSR) initiatives including Covid-19 support, rural transformation, education, health, sports, and disaster response. According to the company's latest annual report, Reliance had spent Rs 1,022 crore in 2019-20 and 904 crores in 2018-19. Reliance Industries Limited (RIL), India's largest multi-national conglomerate headquartered in Mumbai, has spent a whopping Rs 922 Cr towards its CSR activities in the year 2020-21.

The CSR spent by the RIL is Rs 38 crore more than its CSR obligation of Rs 884 Crore for the last financial year. Last year (2019-20) also the company spent Rs 1022 crore against a prescribed CSR budget of Rs 875 crore.

Table 5: Average CSR Spending of Different Companies

PRIVATE	2018-19	2019-20	2020-21
NTPC	285.46	304.92	418.87
INFOSYS	342	360	362
TCS	542	600	674
RELIANCE	904	1022	922
AVERAGE	518.365	571.73	594.2175
GOVERNMENT			
ONGC	614.64	607	552.6
SAIL	31.18	27.56	25
COAL INDIA	416.47	587.84	553.85
AVERAGE	354.10	407.47	377.15

Source: Secondary Data

The above table shows the average CSR Expenditures of private and government corporations during the period of study.

The objective of the present study is to find out whether there is a significant difference between the CSR spending of privately owned companies and government-run corporations

or public sector units (PSUs). For this purpose, we have first divided the privately owned Companies and government-run corporations in our list. Four privately owned Companies in our study include Reliance, Infosys, TCS, and NTPC and three government-owned corporations include ONGC, SAIL, and COAL INDIA. The study implemented one-way ANOVA to satisfy this research objective.

From the table, it is evident that the average CSR Expenditures made by government-owned organizations are less than the average CSR Expenditures made by privately owned Companies. But, the question is whether it is significantly less at a certain level of significance and we have chosen a 0.05 level of significance to test the following hypothesis:

Ho: There is no significant impact of ownership of corporations on CSR Expenditures

Table 6: Summary of Average CSR Expenditures

Groups	Count	Sum	Average	Variance
Row 1	3	1684.3125	561.4375	1517.852106
Row 2	3	1138.713333	379.5711111	716.4855593

Source: Secondary Data

Table 7: Results of ANOVA

Source of Variation	SS	DF	MS	F	P-value	F critical vale
Between Groups	49613.07511	1	49613.0751	44.4096	0.0026	7.7086
Within Groups	4468.675331	4	1117.1688			
Total	54081.75044	5				

Source: Secondary Data

The one-way ANOVA table shows that the computed value of F is 44.4 and the critical value of F is 7.7 at 0.05 level of significance for (1,4) degree of freedom. Since the computed value of F is more than the F critical, it will take a position in the rejection region and that is why the p-value is 0.0026 which is less than 0.05. It means that the null hypothesis is rejected. It needs to be computed that there is significant impact of ownership of corporations on CSR Expenditures. In other words, private companies are spending significantly more than government-owned corporations.

8. FINDINGS

Table 8: Average CSR Expenditures by private and public companies

Companies	2018-19	2019-20	2020-21
Private Company	518.36	571.73	594.21
Govt. Company	354.09	407.46	377.15

Source: Secondary Data

By analysing the CSR expenditures of both private and public companies it becomes crystal clear that Private companies are providing more funds towards CSR than Government companies as we can see from the above table in the year 2018-19. The average spending of a private company is 518.36 crore whereas 354.09 crores for a government company. In the year 2019-20, the spending of a private company is 571.73 crore but the government company's CSR spending is 407.46 crore. The same case was in the year 2020-21 also where private companies spending increased to 594.21 crore but government companies spending decreased to 377.15 crores from 407.46 crore. We also analysed the extent to which private companies spend more than Government companies, the study used one-way ANOVA a statistical tool, which shows the same thing.

9.   CONCLUSION AND SCOPE OF FUTURE RESEARCH

By triggering the objective of the present study, it has been discovered that the average CSR expenditures throughout the study done by private companies are significantly more than that of government corporations. The present study is based on a small period and it makes the usability of key findings limited which is expected to be taken care of in future research. Cross Country comparison can be made by taking the CSR spending of MNCs or foreign companies with that of Indian companies.

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Greening the Workplace: A Study of Green HRM Practices Adopted by Indian Corporates

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Abstract: There is a growing need for the integration of environmental management into Human Resource Management (HRM) practices; such effort is known as Green HRM initiatives. Green HRM means using every employee interface in such a manner in order to promote and maintain sustainable business practices as well as creating awareness, which in turn, helps organizations to operate in an environmentally sustainable fashion. Hence, Green HRM encompasses two major elements: environmental-friendly HR practices and the preservation of the knowledge capital. The purpose of this study is to explore the status and challenges of green human resource management practices in India, an under-researched area. This paper concentrates on studying the present Green Human Resource Management practices adopted by the Indian organizations, their awareness and implementations, and growth rate in Indian scenario. This study explores the success rate of implementing Green Human. This study fulfils the need to explore green human resource management in emerging economies like India.

Keywords: Green HRM, Green HRM Practices, Environment

JEL Codes: O15, J24, J64

1. INTRODUCTION

Green HRM, also known as environmentally sustainable human resource management, is a relatively new concept that has gained momentum in recent years. This approach to HRM integrates sustainability principles into various HR functions, including recruitment, training and development, compensation and benefits, employee engagement, and performance management. Green HRM aims to enhance organizational sustainability by promoting employee awareness and commitment to environmental issues, reducing resource consumption, and improving the overall environmental performance of the organization (Deshwal, 2015).

As the world continues to face environmental challenges, the implementation of Green HRM practices has become increasingly important for organizations to demonstrate their commitment to sustainability and corporate social responsibility.

This paper explores the concept of "Green HRM", which refers to the integration of environmentally sustainable practices into HRM policies and practices. Drawing on a review of relevant literature, the paper highlights the potential benefits of Green HRM, including improved environmental performance, enhanced employee engagement, and strengthened employer brand. The paper also examines the key components of Green HRM, including recruitment and selection, training and development, performance management, compensation and benefits, and employee engagement. Overall, the paper suggests that Green HRM has the potential to contribute to both organizational sustainability and employee well-being and calls for further research on this important topic.

2. LITERATURE REVIEW

Ahmad (2015) observed the increasing awareness of Indian Corporates for going green and adopting various environment management techniques. The paper focussed on various Green HRM practices pursed by the organizations and explains the simplified meaning of Green HRM. Organization across the globe are incorporating and working towards implementing Green HRM which will indirectly help them to achieve a competitive advantage in this fast-moving corporate world. Complete adoption is not possible because it would require a changed approach towards the existing HR practices. Mishra (2017) studied the existing green HRM practices adopted by Indian Corporates but they found that these practices are neither formally organized nor they are being diligently followed. For the study, the author conducted the research in two phases, in the first phase archival research and in the second case study technique was employed. The author observed that organizations are making efforts to increase awareness through informal means rather than formal means which tends to be expensive. In the case of recruitment and selection organizations have not paid any consideration for accessing green personality and skills in the selection process. Overall, it was found that there is high scope for Indian manufacturing sector to improvise their Green HRM practices.

Peerzadah et al. (2018) explored in their study if green HRM practices contribute positively to organizational reputation and higher employee engagement. The authors' study was based on secondary sources and used the archival method of literature review. They observed that the green performance, green behaviours, and green competencies of human resources can be shaped and reshaped through adoption of green HRM practices. Green HRM can develop inspiration, willingness, and commitment to employees to contribute their ideas and efforts which would help in converting the organization into green entities. Jalaja (2018) discussed the various green HRM practices that are evolving as a result of depleting environment. Increased

greenhouse gas emissions and other factors are leading to acute global warming issues, corporates must readily move forward and act in favour of achieving the "green" in their business missions. HR managers face challenges while they try to incorporate green practices as their mission and vision statement. Indian organizations are still in the growing stage. Acceptance of green culture will lead to sustainable use of resources and reduce the negative impacts of the organizations. Majeed & Khan (2019) reviewed literatures and addressed the need of green HRM. For the study, they have emphasized on the various practices adopted by Indian corporates and discussed suggestions for implementing such practices at a larger scale. Apart from being responsible to the environment, the study exclusively discusses the positive image that a corporate creates by implementing green practices. The study suggested ways in which environmental management can be integrated with human resource management to achieve an upper hand among various corporates. Rizvi & Garg (2021) in their study used qualitative as well as quantitative research in order to get an in-depth knowledge about green HRM in Indian corporates. The study discusses the green practices and its impacts on organizational performance and its management along with the relationship between strategies related to human resource and sustainability of the organizational environment. Updating green knowledge and skills, creating a workforce with environmentally friendly mindset, training and development of the workforce with issues relating to environment and strategy formulation by keeping in mind the importance of "green" and sustainability. Contributions have been made by various corporates to instil a culture of environment friendly and sustainability willingness among the workforce.

From the above review, we found that some studies have explored the implementation of Green HRM practices in specific industries or regions, more research is needed to understand how these practices can help organizations and HRM professionals to execute the such strategies in order to promote sustainability and employee well-being. Keeping this in mind, we have found the need to examine Green HRM practices in Indian Corporates in the current years, and by virtue of our paper we will address this gap.

3. OBJECTIVES OF THE STUDY

1. To comprehend the prevalent green HRM strategies.
2. To outline several initiatives adopted by the different corporates in India.

4. RESEARCH METHODOLOGY

The paper is theoretical in nature and is primarily based on secondary data collected from different databases, websites, journals, and other available sources. The study encompasses and assembles information regarding green HRM practices in general. Moreover, we have selected 10 companies belonging to different sectors to get a comprehensive overview of the Green HRM adoption by the various sectors in recent times.

5.   THEORETICAL OVERVIEW OF GREEN HRM INITIATIVES

Today corporates are acting mindful about the hazardous impacts of their work centers. Organizations are shifting to a resource effective construction technique that minimizes the negative impacts on the environment. Usage of solar power, recycled resources, proper sewage, water conservation, etc. In addition, organizations today are shifting towards adoption of paperless work environment. IT sector especially has been converting their official documents to digital format. This act reduces wastage and energy of natural resources. Firms also started practicing green recruitment and selection. By applying these methods, corporates these days are aiming to hire professionals who are sensitive and aware of environmental concerns. Individuals must possess a willingness to protect the environment and be aware of the green practices to carry out things. Wastage disposal and recycling reduces waste discarded, saves energy, and reduces the carbon footprint of organizations. The 3R's- Reduces, Recycle and Reuse is currently adopted by many corporates to save the environment and win competitive edge over others. Moving towards energy conservation, organizations these days are opting for 100% renewable energy, reducing carbon footprint, e-vehicles, to potentially reduce the negative environmental impacts. Corporates are striving to be eco-friendly for a sustainable future.

Green appraisal and performance management are approaches that organizations can adopt to evaluate and manage the performance of their employees in the context of sustainability and environmental responsibility. Green appraisal involves assessing employees' performance based on their contributions to environmental sustainability, while performance management refers to the ongoing process of setting goals, providing feedback, and evaluating employees' performance to ensure that they are meeting the organization's expectations and contributing to its success. Incorporating sustainability metrics into performance management can help organizations promote sustainability and environmental responsibility while also improving employee engagement and performance. Green training and development are considered as a process through which organizations equip their employees with the knowledge, skills, and attitudes necessary to promote environmental sustainability and reduce the organization's environmental impact. This type of training may include education on sustainable practices, such as energy conservation and waste reduction, as well as strategies for integrating sustainability into business processes and decision-making. Green training and development can help organizations promote sustainability and meet their environmental goals, while also enhancing employee engagement and motivation. By investing in employees' skills and knowledge in sustainability, organizations can create a culture of environmental responsibility that is embedded in their operations and supported by their workforce. Additionally, green training and development can have broader benefits for society and the environment by increasing awareness and understanding of environmental issues and promoting sustainable behaviours

outside of the workplace. Overall, green training and development is an important tool for organizations seeking to enhance their environmental performance and build a sustainable future. Green rewards and compensation are incentives and bonuses used by organizations to motivate and reward employees for their contributions to environmental sustainability and the reduction of the organization's environmental impact. This approach fosters a culture of environmental responsibility and can attract and retain employees who prioritize sustainability. Examples include bonuses for exceptional commitment to sustainability, recognition programs, and additional compensation for innovative solutions to reduce the organization's environmental footprint. Green rewards and compensation reinforce an organization's commitment to sustainability and encourage employees to prioritize sustainability in their work. In today's business landscape, sustainability has become an increasingly important consideration for organizations of all sizes and industries. As companies strive to reduce their environmental footprint and promote sustainable practices, it's clear that employees play a critical role in achieving these goals. Green employee relations, therefore, has emerged as an important aspect of promoting sustainability in the workplace. This involves creating policies and practices that engage employees in sustainability initiatives, providing them with the knowledge and resources to make sustainable choices, and fostering a culture of environmental responsibility that extends beyond the workplace. Effective green employee relations can enhance an organization's environmental performance, improve employee engagement and motivation, and promote sustainability more broadly.

6. GREEN HRM PRACTICES ADOPTED BY INDIAN CORPORATES

Table 1: Green HRM Practices Adopted by Indian Corporates

Companies	Program Name	Strategy
1. Hindustan Unilever Limited (HUL)	Sustainable Living Plan	Through the Sustainable Living Plan, HUL has introduced green HRM practices such as promoting green commuting, implementing energy-efficient measures, and providing green training programs to employees.
2. Larsen & Toubro (L&T)	Sustainability Vision 2021	The Sustainability Vision 2021 has three main focus areas: people, planet, and performance. Under each focus area, the company has set specific targets and initiatives to achieve its sustainability goals.
3.IndusInd Bank	Hum aur Hariyali	It was the first to introduce solar powered ATMs in India as a green banking initiative. "Hum aur Hariyali" is the initiative taken by the bank to upgrade its CSR activities along with publishing its green office manual.
4. Wipro	The Eco Eye	Wipro adopted an exhaustive plan to achieve environmental sustainability. The company aims at reducing carbon footprint, minimize wastage, value water, and actively adopt other green practices.

Companies	Program Name	Strategy
5. ITC Limited	Sustainability 2.0	The program aims to build on ITC's earlier sustainability initiatives and set more ambitious targets to reduce the company's environmental footprint and enhance its social and economic impact.
6.Reliance Industries Limited (RIL)	Green Commuting and Employee Engagement	RIL promotes green commuting by encouraging employees to use public transport, bicycles, or carpooling.
7. Godrej	Godrej Green Campus	This is a sustainability program that focuses on reducing the carbon footprint of Godrej's campuses by incorporating sustainable design principles and energy-efficient technologies.
8. TATA Motors	Water Conservation	It has adopted large scale water harvesting techniques and reduced freshwater utilization in its manufacturing plants.
9. ONGC	Harit Moksha	The company actively participates in tree plantation across India, especially in its project areas. Apart from this, according to the Harit Moksha plan, it aims at saving wood utilization which would reduce the air and water pollution along with minimising greenhouse gas emissions.
10. GAIL	Pankh	This initiative pushes to build strong and sustainable eco system for green technologies and invest in green startups. Apart from this GAIL has been actively participating in efficient energy saving methods, reduction of emissions, planting trees.

Source: Compiled from different sources

7. CONCLUSION

It is not unknown to us that human resource is nothing but oxygen to any organisation. Currently, corporates are focusing on green human resource management. Environmental initiatives are being taken up by companies to gain competitive advantage over others. Green practices in various aspects are vital for a corporate to win over its competitors. HR managers, however, are facing immense challenges as corporates are shifting to incorporate environmental concerns to its mission and vision statements. Nonetheless, corporates can cope up and achieve sustainability. Green HRM improves the working conditions and improves the mindset of the workforce making it more inclined towards environment and sustainability. Ultimately, green HRM practices would bridge the gap between sustainable development of an organisation and the potential human capital.

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Impact of Covid-19 on Customers' Perception of Life Insurance Products

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Abstract: People generally aspire to have adequate savings, as well as proper safety and protection for themselves, in order to mitigate various risks in their lives. The pandemic has made people aware about the fragility of human life and how important it is to save your dear one from any potentially devastating financial loss or medical and living expenses. The life insurance sector currently boasts for about 75% of the market share and accounts for nearly 50% of the insurance companies in India. While the pandemic increased the focus on social distancing, and contactless transactions, it has also had a significant financial as well as psychological impact on people. This encouraged more and more customers to turn to online modes of buying and renewing life insurance policies, which has further prompted the insurance companies to offer digitally enabled omni channel systems and better online functionalities. The economic performance of insurance companies is the outcome of customer satisfaction as well as their perception of the service quality of the insurance service provider. The present study has focused on analyzing the impact of COVID 19 on the perception of the customers of the life insurance products in Odisha. To achieve the purpose, the primary data has been collected from the respondents in the state of Odisha.

Keywords: Customer satisfaction, Policy Holders, Life Insurance Products, Strategies, Financial Impact, Psychological Impact

JEL Codes: I38, I18,D11

1. INTRODUCTION

Risk being an inherent part of our daily lives, goes side by side with insurance. This is because people now-a-days look for a good insurance plan to mitigate any sort of risk in their life. It further helps that the different insurance companies, at present, provide us with a wide variety of dynamic products that help organizations as well as the individuals to minimize and mitigate the risk, and this in turn ends up having a positive effect on the overall entrepreneurial

and industrial growth. The concept of life insurance or life assurance is really simple. It sums up into a contract between the insurer and the policy owner where the insurer agrees on paying the designated beneficiary a particular sum of money upon the occurrence of the insured individual's death or any other event such as terminal or critical illness. The policy owner, in return, agrees to pay a stipulated amount at regular intervals or a lump sum manner whichever they prefer. Typically, life assurance product offerings go two ways. There are either, high end customized and complicated products that aim at the high end financially aware customers with risk appetites, like the Key man insurance and ULIPs that belong to this particular segment; or there are, the simplified over the counter insurance products that particularly cater to the middle class and lower middle class needs. These segments in particular, provide an alluring combination of endowment, money back and pensions in varying proportions. Along with an alluring combination of various products, there are many other factors that a customer takes into consideration when they go for purchasing a life insurance policy like- a company's reputation and financial health, the key factors that would contribute to the annual premiums, the face value of the policy, the term length, the probability of death proxies etc. measured by the risk factors like sex, underlying health and other risk behaviour etc.

The importance of life insurance products has further been brought into light by the financial impact of this pandemic. The pandemic has forced the people into appreciating the protection and the fallback offered by these products in the toughest of times. This awareness among the people resulted in a very good growth of the life insurance growth in the second half of the 2020-21 financial year that saw a 16% YoY business premium growth, with more people preferring to go for a single premium policy to protect themselves against any future loss of income. Along with the awareness of how valuable life insurance products are; the people have also come to ann understanding that it is equally essential that you choose the right product for yourself. For example, people rather than just choosing uniform products, ask for more personalized options that suit their lifestyle better along with having other features like flexibility in payments, online modes of transactions that ensure contactless purchase renewal, as well as adding-value through innovative benefits that cover COVID-19 and other risks etc. Such customer demands have forced life insurance companies to offer a more digitally enabled omni channel system with better online functionalities.

There are so many life insurance products floating in the market today that often these policies appear as a very close substitute for each other. This multiple commodity situation creates quite a very confusing situation for the customers who are faced with the complexity of the choices available to them. This complexity "is influenced both by the number of alternatives available as well as by the number of attributes used to describe each alternative". In order to tackle this confusion, the customers opt for a comparative shopping approach, where they judge the different products and services. This in turn leads to small premium adjustments

that may further lead to leapfrogging, which in turn could dramatically affect the demand of the policies and products. The life insurance companies today are under undue pressure. When it comes to providing such personalized and dynamic products and services to a variety of customers coming from different age groups, it is very important that the knowledge and understanding of the customer's preferences and their choices of life insurance product features and the services provided by the life insurance companies be analyzed and understood. This paper is an attempt at understanding if COVID-19 has had any impact on the customer's perception towards their life insurance product features.

At this point, it is safe to say that the life insurance companies play a very salient role when it comes to the welfare of human beings. These policies and products ensure our well being by providing protection against different types of life risks and uncertainties such as accidents, diseases etc. As the life insurance sector has become the fastest growing service sector in India, it is essential that we study the buying pattern of the life insurance policies as well as the customer's demands and their preferences today.

In order to understand the customers' perceptions, companies generally strategise the customers into different groups such as old and young etc., in order to study the demand much better. However, this does not come easy because with the changing world the customer preferences, especially the young customers constantly changes too. As mentioned earlier, today's business world faces immense competition and life Insurance companies are no exception. Since, they must compete for them to remain profitable, the idea is that understanding the impact of the pandemic on the needs and perceptions of young customers could help a lot in understanding the underlying dimensions of these perceptions, and at the same time allow the insurance companies to become much more customer focused and remain profitable over a period of time.

2. REVIEW OF LITERATURE

Maheshwari (2005) addressed that the future of life insurance will be determined by the increase in pure protection products, a refreshing look at unit-linked plans, the launch of customized plans, and improved service levels. Alinvi & Babri (2007) further addressed that the preferences of consumers change on a regular basis, and organizations adjust themselves to meet such changes to remain profitable and competitive. Through their paper Jaiswal & Pandey (2009) concluded that are Consumer Loyalty, Service Quality, Ease of Procedures, Satisfaction Level, Company Image, and Company-Client Relationship are the major factors playing the role in developing consumers' perception towards Life Insurance Policies. Singh et al. (2011) found that in post-liberalized-era, government servicemen of the young people are more aware of buying insurance policies for several purposes. The study also found that although insurance distribution channels have grown,the insurance agents still have a significant role in selling and

distributing insurance products. This makes the development of micro insurance products for underprivileged people & rural areas population according to their needs and income more important along with spreading awareness about insurance products in these areas. Shameem & Gupta (2012) remarked that the insurance industry faces various challenges like increased costs of operation, regulatory pressures, and inflexible technology infrastructure; it requires new strategies to survive and thrive successfully. Rozar (2015) stressed on the fact that "though the non-stop wave of technological change is creating both challenges and opportunities, but technology will continue to transform the insurance industry since insurers are now able to leverage technological advances to engage customers and mitigate risks, communicate more effectively, and refine pricing and underwriting. Gajenderan (2016) found that "customers are absolutely satisfied with the online insurance products which are offered by the insurers and the insurers should educate the customers about the reliability of the online insurance products and provide frequent updates on them". ". (Giri, 2018) found that the most frequently cited reason for policy lapse was that the original reason for taking the insurance was not relevant anymore which could be due to the fact that the bequest motive had ceased to be important, purchasing the policy had been a mistake, the policy did not meet investment needs or unaffordable premium. Raavi & Satuluri, (2019) reflected the need for the insurance industry to invest heavily in analytics, digital, Artificial Intelligence, and Robotics. Product innovation and mandatory awareness programmes are becoming the norm to make policies more appealing to end users. Insurance education should start from primary and secondary school thus creating awareness among the masses. Satuluri & Raavi (2021) remarked upon "the efficient leveraging of digital revolution that can let life insurance companies lessen customer service costs while augmenting both customer satisfaction and retention. Digital transformation in the life insurance sector has been initiated both on the payment space and on the distribution front".

No two customers ' preferences and choices are the same. This is especially valid for young people's preferences given their tendency to go for more tailor-made products customized to their needs today. These differences don't make it easy for the life insurance companies and other businesses to satisfy the dynamic customer demands and needs.

Among various customers' preferences and choices; rational choice theory assumes customer's rationality while making a choice among different services and products. The bounded decision-making theory, on the other hand, describes consumers as constructing and expressing their preferences about the possibilities they have and their choices to be unstable and inconsistent. "This means that depending on the task, consumers will use different types of information and different decision processes in constructing their preferences".

The literature review shows a number of works undertaken over the period to study the impact of corona on the overall insurance industry and life insurance sector. But there is still a gap in the research for the customer perception towards life insurance products given the

Covid-19 pandemic. So, this paper is an endeavor to explore the demographic profile and perception of customers toward life insurance products during COVID-19.

3. OBJECTIVES OF THE STUDY

Understanding the preferences of the young customers and using the findings secured to give the insurance companies useful suggestions so that they could retain the loyal customers over time is the main purpose of the study. In order to achieve the set purpose, the study has been further divided into two main sub purposes:-

1. To make a comparative study of the demographic profile of the customers during the COVID-19 period. This would take the age, gender, educational background and monthly income of the customers into account.

2. To understand the underlying dimensions of the customer's perception towards life insurance products during COVID-19.

4. RESEARCH METHODOLOGY

The data collected is primary in nature to achieve the research objectives. Secondary data has been referred to from journals, articles, books, etc. A sample size of 120 respondents was collected out of which 106 were taken from the final data analysis.

The purpose of the research study is to analyze the impact of COVID 19 on the perception of customers towards life insurance products. Structured questionnaires were sent to policyholders via email and WhatsApp for the primary data to be collected for the study. Out of 120 responses collected, only 106 effectively submitted their responses. Convenient sampling was used, and the secondary data used for the research was collected from journals, internet books, etc. The data collected was further analyzed to get an idea of the demographic profile of the respondents, as well as the underlying dimensions to their perception towards life insurance products during the pandemic. The research tools like frequency, percentage and factor analysis were also used for data and result interpretation.

5. DEMOGRAPHIC PROFILE ANALYSIS OF THE SAMPLE

Table 1: Demographic Profile

Parameters	Frequency	Percentage
Gender		
Male	62	58.9
Female	44	41.1
Age		
18-25 yrs	22	20.8
25-35 yrs	16	15.1

Parameters	Frequency	Percentage
35-45 yrs	16	15.1
45-55 yrs	46	43.4
55-65 yrs	4	3.7
Above 65 yrs	2	1.9
Educational Qualification		
Below UG	8	7.5
UG	11	10.4
Post Graduate	49	46.2
Professional	21	19.8
Other	17	16.1
Occupation		
Self-employed	17	16
Employed	64	60.4
Professional	10	9.4
Other	15	14.2
Monthly Income		
Less than Rs.30,000	34	32.1
Rs.30,000- Rs.40,000	11	10.7
Rs.40,000-Rs.50,000	9	8.1
More than Rs.50,000	52	49.1
Marital Status		
Married	70	66
Unmarried	36	34
Type of Company		
Public	61	57.5
Private	15	14.2
Both	30	28.3
Policy purchased for		
Self	94	88.6
Spouse	33	31.1
Parents	22	20.7
Children	27	25.4

Source: Primary data

The table above reflects the demographic features of respondents which are measured in terms of age, gender, income, education level, marital status, and type of company. It is observed that more male, educated, high-income groups and adult employees have participated in the survey. Policyholders preferred public companies over private companies and a greater number of policies are purchased for self.

Table 2: Composition of Insurance Products & Source of Information

Parameters	Frequency	Percentage
Type of Insurance Products		
Money Back	51	48.1
Pension	16	15.1
Annuity	4	3.7
Term	57	53.7
Endowment	39	36.8
Whole	13	12.2
Source of Information		
The media (TV, Newspapers, Facebook, Instagram, etc)	18	17
Insurance agents and advisors	76	71.7
Banks	20	18.9
Friends, family, and colleagues	40	37.7
Online Websites and advertisement	18	17

Source: Primary data

The table above describes the types of insurance products and sources of information of the products. Policyholders prefer money-back and term policies whereas preference for annuity policies is negligible.

Table 3: Type and Time of Purchase of Life Insurance Products

Parameters	Frequency	Percentage
Purchase through online and offline		
Yes	30	28.3
No	76	71.7
Purchase of LIP during the pandemic		
Yes	30	28
No	76	72
Source of Awareness		
Policy bazaar	82	77.4
Bank bazaar	16	15.1
Coverfox	8	7.5
Trucompare	4	3.8
Insurance dekho	6	5.7
None of the above	18	17

Source: Primary data

The table above portrays type of purchase, the timing of purchase, and source of awareness. A greater number of policies are purchased in offline mode. A fewer number of policies are purchased during the pandemic and policy bazar is the major source of information.

6. PERCEPTION STUDY OF THE SAMPLE

In order to analyse the perception of the people, it is really essential to understand the psychometric perception of the people as well. In order to do that, statements given on a 5-point Likert scale, ranging from 1= strongly disagree to 5= strongly agree has been used. A factor analytical approach is taken to get an idea of the underlying dimensions to the perception of customers towards life insurance products during the pandemic.

6.1. Factor Analysis

It is a very general name denoting a class of procedures primarily used for data reduction and summarization. In short this technique is used, when we need to depict and represent the data contained in a larger set of variables into a smaller set of factors. These smaller set of factors represent the original variables and capture as much information as possible from the larger set of data. In this study, a questionnaire containing 33 items that affect the decision of a policyholder was given to the customers.

In order to find out the attributes that affect that perception regarding the life insurance product, we use the factor analysis technique. Likert scale has been used to give a numerical value ranging from 1= strongly disagree to 5= strongly agree, to the set of attributes or variables, to be further used to conduct the factor analysis test.

6.2. Reliability Test

Whenever an objective model with summated scale is used, reliability comes to the forefront in mind. It is obvious that the items that make up the summated scales are interrelated. Thus, it is important to know if these sets of items, if recast as the same questions and re administered to the same respondents, would depict the same responses or not. The summated scale of the interrelated items used to measure the underlying construct and the items derived from the test instruments is proven to be reliable, only when the responses prove to be stable and reliable, over the repeated administration of the test.

In this study Cronbach alpha has been used to conduct the reliability test. It is the most commonly used measure of internal consistency when it comes to a Likert questionnaire in a survey. , or questionnaire, that for a scale and whether to determine if the scale is reliable or not, cone backs alpha is most consistently and regularly used. Cronbach's alpha (α) internal consistency has been applied for this and such value is more than the recommended value which is 0.956 for 26 items.

6.3. KMO and Bartlett's Test

Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy

The Kaiser-Meyer-Olkin (KMO) is an index measure of sampling adequacy that examines how appropriate a factor analysis is. A high value of KMO that lies between 0.6 and 1.0 indicates that the factor analysis is appropriate. If the value falls below 0.6, then the factor analysis may not be appropriate. Small values of the KMO statistic normally indicate that the correlation between the pair of variables cannot be explained by the other variables, which further denote the factor analysis to be inappropriate, indicate that the correlations between pairs of variables cannot be explained by other variables and that factor analysis may not be appropriate.

Bartlett's test of sphericity

This test statistic is used to examine the hypothesis that the variables are uncorrelated in the population, that is, each variable should correlate perfectly with itself(r=1), but should not correlate with the other variables(r=0); ("the population correlation matrix is an identity matrix)". If this hypothesis cannot be rejected, then the appropriateness of factor analysis comes into question.

Table 4: KMO and Bartlett's Test

Test Parameters	Test Stat.
Kaiser-Meyer-Olkin Measure of Sampling Adequacy	0.803
Bartlett's Test of Sphericity: Approx. Chi-Square (P Value)	2646.381 (0.00)

Sources: Compiled from collected data

As shown in the table above, the sample is adequate as the KMO value of the sample is 0.956 which is between the prescribed limit i.e..6 to 1.0 and Bartlett's Test of Sphericity value is .000 which means null hypothesis is rejected; as a result, the data is significant. It implies that there is relation between the populations.

6.4. Factor Rotation

It is preferable to have each factor with nonzero or significant loadings or coefficients for only some of the variables when the factors are being rotated. Likewise, each variable should also have nonzero or significant loadings with only a few factors, and if possible, with only one factor. In this study, orthogonal varimax rotation has been used where the axes are maintained at right angles. This is the most commonly used method for rotation, as it enhances the interpretability of the factors by minimising the number of variables with high loadings on a factor. Orthogonal rotation results in factors that are uncorrelated.

Table 5: Factors, Factor Loadings, Eigen Value and Variances

Factor Name (Variance Explained %)	Eigen Value	% of Variance	Cumu- lative %	Factor Loading	Statements Included in the Factor
F1: Technological Attributes	12.760	49.079	49.079	0.751	The mobile applications provide a wide range of services with easy navigation and end-to-end management of your life insurance policy or product.
				0.740	Life insurance mobile applications have made it easier to get timely updates on product offers and avail key information on your policy or product.
				0.710	Remote consultation with insurers and agents is much easier than the old school e-mail or telephonic conversations.
				0.691	You get customized policy coverage and the freedom to choose the elements/items you want or don't want in your policy. (tailor made to your needs)
				0.675	There is clarity in the policy terms and conditions.
				0.644	You are encouraged to share personal information like health, exercise, life style, personal habits, etc. in exchange for better pricing offers and discounts.
				0.566	The documentation work of life insurance policies has become easier.
				0.559	Digital product offerings help to make safer, healthier and more sustainable choices.
				0.542	Life insurance products are now easier to assess and compare online, thus are less complex and it is easier to understand the policy implications.
F2: Affordability And Appeal	1.696	6.524	55.603	0.719	The life insurance products have become more affordable and accessible during the pandemic.
				0.707	The service charges have gotten relatively lower during the Covid-19 pandemic.
				0.677	Branding & visual appeal of the policy & services also helped in making the purchase decision of the policy.
				0.651	Provision of reasonable grace period and relaxation for payment of policy premium during the pandemic.
				0.573	You are satisfied with software enabled problem solving procedures with the Artificial Intelligence and Chat bots.
				0.544	The life insurers also give personalized health goal and integration with personal health technology to promote healthier lifestyles to earn several rewards and benefits.

Factor Name (Variance Explained %)	Eigen Value	% of Variance	Cumu-lative %	Factor Loading	Statements Included in the Factor
F3: Competence	1.579	6.073	61.676	0.826	Prompt and efficient grievance handling mechanism.
				0.776	Timely alerts for premium payments or policy lapses.
				0.685	Overall satisfaction with life insurance product/policy features.
				0.590	Easy online transactions and payment mechanisms.
				0.582	Prompt, speedy, and hassle-free settlement of claims.
				0.545	You get a better assessment of risks and also get personalized wellness products and care suggestions relating to your life insurance product.
F:4 Company Reputation	1.462	5.623	67.299		Job insecurity, pay cuts or unemployment hindered the purchase or continuance of life insurance products/ policy during the pandemic.
				0.783	
				0.698	You get timely access to proper knowledge and professional advice and appropriate feedback on your queries and doubt about the life insurance product.
				0.633	The goodwill and reputation of the company played an important role in product/policy selection.
F5: Convenience	1.400	5.383	72.682	0.809	Purchasing a life insurance product/policy has become a simple & less time-consuming procedure.
				0.715	The process of any product related service delivery has become quicker and easier.

Sources: Compiled from collected data

The factor loadings of all the attributes shown in the results in the table above, give an idea of the perception of the consumers about the life insurance policies during the pandemic. The factor loadings are nothing but very simple correlations between the variables and the factors.

The Eigen value in the table gives us an understanding of how much of the variance of the observed variables is being explained by the particular factor. Any factor with an eigenvalue ≥1 explains more variance than a single observed variable. It ranges from -1 to 1. A factor is generally interpreted in terms of the variables that load high on it. This means that higher loadings provide a better interpretation of the factor in which it lies. The 3rd column of the table shows the variance accounted for by each factor.

The 4th column '% of variance' as the name suggests, explains the individual variance of each factor.

The 5th column gives the cumulative variance of the factors as a whole. As the study shows, the extracted variables classified into 5 components explain and account for 72.68% of the total variance.

7. IMPLICATIONS

The extracted factors are self-explanatory with their intrinsic characteristics. The five factors are analysed below:

7.1. Factor 1: Technological Attributes

As shown in the table above, the variables in factor one has significantly high loadings. There are nine variables with positive loadings that have been extracted on factor one that indicate their covariance with each other. The Eigen value of factor one is 12.760, and explains about 49.079% of the total variance. Customers want a wide range of services and end-to-end product management. Further, timely updates of key information on product offers and policies through mobile apps, online remote consultations with insurers and agents, tailor-made on-demand customized policy coverage, and clarity in policy terms are the basic requirements and demands of the policyholders.

As important technological and digital attributes that shape the perception of life insurance policies, especially during the pandemic, when online work from home became the norm for the customers. It is safe to say that the factor could be easily named as "Technological Attributes".

7.2. Factor 2: Affordability and Appeal

As shown in the table above, the variables that represent the factor have significantly high loadings. There are six variables with positive loadings extracted on factor two that indicate their covariance with each other. The Eigenvalue of this factor is 1.696, and explains about 6.524% of the total variance. Policy holders focused on the affordability, accessibility, and lower services charges of life insurance products during the pandemic. Branding, provision of personalized health goals with healthcare technology, and grace period can also be emphasized.

As these variables talk about how appealing a life insurance product is to a customer, it is safe to say that the factor can be named as "Affordability and Appeal".

7.3. Factor 3: Competence and Effective Service Quality

Variables that make up the factor three have significantly high loadings as shown in the table above. six variables that covary with each other with positive loadings have been extracted on factor three, the Eigen value of this factor is 1.579. And it explains about 6.073% of the total variance. The important attributes are prompt and efficient grievance handling mechanism, timely alerts on premium payments and policy lapse, satisfaction with policy and product features, easy online transactions and payment mechanism, prompt, speedy and hassle-free claim settlement and better risk assessment and personalized wellness and care products and suggestions relating to life insurance products.

As important attributes that help them perceive the service quality and competence related to the life insurance product; the factor can overall be named as "Competence and Effective Service Quality".

7.4. Factor 4: Company Reputation and Initiative

The loadings or variables that make up the factor four are significantly high as shown in the table above. There are three variables with positive loadings extracted on this factor that show their covariance with each other. The Eigen value of this factor is 1.462. And it explains about 5.623% of the total variance. This factor exhibits that the customers consider job insecurity, pay cuts, and unemployment hindered the purchase or continuance of life insurance products during the pandemic, timely access to proper knowledge and professional advice and appropriate feedback on queries, and goodwill and reputation of the company.

As these valuable attributes help them perceive the company's reputation and initiative of the related life insurance product, the attribute of the variables on this factor make it easy to depict the factor as "Company Reputation and Initiative".

7.5. Factor 5: Customer Convenience

The loadings of the variables that make up the assemblage of factor five is significantly high. As we can see from the table above, there are three variables with positive loadings that have been extracted on this factor. And these positive loadings indicate the covariance of the two variables with each other. The Eigenvalue of this factor is 1.400 and it explains about 5.383% of the total variance. This factor exhibits that the customers consider the simple procedure of the purchase of the life insurance product and any product related service delivery is quicker and easier (0.715).

As important attributes that help them perceive the convenience of any product related service delivery; keeping the variables in mind, we can interpret that this factor can be named as "Customer Convenience".

8.   CONCLUSION

With new risks coming up every day and new demands from the customers for further and effective customization, India has a huge untapped market whose potential has yet to be completely utilized. There are so many things, that have yet to shape the competitive structure of the insurance industry in India like the different types of dynamic proliferation of schemes, the new product innovations, the way the Indian consumers perceive the insurable risks, the competitive pressures arising from the integration of banks and insurance, the impact that information technology has on the insurance industry as well as the role this industry is playing in the financial service industry etc.

From the study, it is quite clear that the pandemic has fast forwarded the people to make a demand for their own customized product coverage and afford the benefit that technology gives them like lower service charges, fewer complications in policy terms and conditions, better premium payment and grievance handling mechanisms, etc. Overall; technological attributes, the affordability of the product, competence and effective service quality, company reputation, and convenience afforded to them are what customers now demand from their life insurance products and policies.

Today, so many life insurance products are floating in the market, each with its own unique appeal. The insurance companies have a vital role roll in offering these insurance products and the only way they can convince the customers to remain loyal to them is if they meet the requirements and expectations of their customers and at the same time make their products more affordable and better available. Also, it is no surprise that, the highly complex and evolving statutory regulations that IT systems in the insurance business must deal with; has resulted in the product market scenario to already start witnessing some revealing changes that are an indicator of what is to be expected in the near future. Thus, it is not only enough, if the life insurance players only focus on the major dimensions and plans to meet the customer expectations. If they are planning to do business in India, they have to be very attentive about studying the service quality and the product features as well. Only then, can the life insurance players remain profitable and retain their loyal customers.

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Organizational Behaviour and Sustainable Development: A Study

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Abstract: This article focuses the "organisational sustainability", which we refer as the sustainability in an organisational setting. It would be an overstatement to say that the concept of sustainability has not yet been clearly defined in literature. The uncertainty may result from the fact that the sustainability discussion is still in its early stages. In this paper, we seek to reduce the conceptual ambiguity in this area of application and forward the discussion of strategies that can be effective in enhancing the "organisational sustainability". Such sustainability depends on many factors like good governance, ethical practice, style of management, etc. It is a challenge for the organisation to implement and continue such sustainable practices which can help the organisation to attain growth in long run.

Keywords: Sustainability, organisational behaviour, Sustainable development, Ecological development

JEL Codes: Q01, Q56, D23

1. INTRODUCTION

Sustainability is the power to survive and grow devoid of exhausting natural resources for the coming time. "Sustainable development" was well-defined by the 'United Nations' in the Brundtland Report as the progress where present requirements are fulfilled, deprived of negotiating the capacity of upcoming groups to fulfil the personal requirements. It presumes that, the reserves are limited. Hence, the resources must be used conventionally and meticulously. So that, it will be ensured that there is an adequate amount for upcoming groups without diminishing the current condition of living. A workable culture should be communally sensible, concentrating on the ecological security, vigorous steadiness in human beings and natural practices (Alcaraz & Thiruvattal, 2010). So today in each sphere, "sustainability" is most important.

Sustainability has equally short-term and long-term advantages. The ecosystems of earth cannot be preserved, or it will operate as we do if additional sustainable alternatives are not

created. If unsafe practices will be kept with no difference, then so many things will happen like; the fossil fuels will come to an end, there will be extinction of huge numbers of animal species, and there will be irreparable damage of our atmosphere. "Sustainability" has so many benefits like; fresh air and non-hazardous atmospheric environments, development of properties, and water sanitation etc. (Kihombo *et al*, 2022).

The notion of sustainability is comprised of three components (Purvis *et al*, 2019): environmental, social, and economic- familiarly recognized as profits, planet, and people. Environmental safety is the greatest debated component. It is involved with the decline of carbon imprints, marine management, non-analysable packing, and extravagant methods as portion of a stream cable. These processes can normally be cost-efficient, and commercially valuable as good as important for "ecological sustainability". Social development means to treat communities equally and safeguarding sensible, proper, and environmental management of the society where a company runs. It can be accomplished by further approachable advantages as; well motherhood and fatherhood advantages, adaptable programming, learning and improvement chances. For instance, a company must use ecological employment, where fully-grown up employees are involved, and they can manage in a protected atmosphere. Financial development is the easiest type of sustainability. To be inexpensively viable, a company should be beneficial and make adequate incomes to be maintained. The task of this type of sustainability is attaining a stability. Corporations ought to be attempted to get a reward in conjunction along with more facets of sustainability instead of maximising the profits at all costs. Centring on societal and ecological sustainability in adding to financial operation is an attitude normally mentioned as the "Triple Bottom Line".

Currently, 'United Nation' published the aims of Sustainable Development, as its most important objectives for a hit achievement of a sophisticated and extra supportable future. They survive with the worldwide tough conditions to sustainability. There are 17 aims which entail: supportable financial growth, no scarcity, less deprivation, easy aquatic and cleanliness, less costly and easy energy, liable consumption and creation, and it was anticipated that they will be grasped by 2030.

Sustainability is assessed by evaluating the inclusive presentation of 3 essential standards entirely, and a sensible therapy of these essential standards. These crucial standards of the "Triple Bottom Line" now prepare no extensive suggestion, a size expedient of themselves. Still recent strategies of assessing sustainability have strained to grade the sustainability over them. Nevertheless, the legit normal size of sustainability does not occur, the industry-precise equipment is developed by most of the companies and procedures to choose how societal, eco-friendly, and fiscal standards feature as a fragment of a company.

2. DISCUSSION

2.1. Organizational Behaviour

Organizational behaviour is a pivotal and multi-faceted area that created diverse studies related to several modern-day control and administrative narratives (Cooper *et al*, 2017; Hodgkinson & Healey, 2011; Luthans, 2002). There have been full-size studies on each sustainability and organizational conduct as separate regions of concern. The problems referring to behaviours riding sustainability in terms of numerous tiers of employer are extra evolving. Whereas, there is a smoothed blend of micro and macro-research of structural behaviour in several settings, plenty of fundamental methods which drive research into sustainability has managed to construct its studies round macro-orientation in preference to micro-oriented ecological views (Andersson *et al.*, 2013). The preference in paintings on sustainability brings about a focal point on general objects like, for example, the agencies and moreover, the factors on approaches wherein the sustainability interrelates with huge standards. For example; efficiency, usefulness, and performativity in preference to such as; micro-analyses. This zeitgeist activates the priority and triumphing flows can be susceptible to obstruct an extra complex and collaborative knowledge of the extra micro, individual, political, relational attributes and drivers of sustainability activities, conditions, and settings. To acknowledge this, it can be additionally reasoned and it's miles the inter-meshing of innumerable micro-occasions which paintings to produce macro-conditions and circumstances (Alcaraz & Thiruvattal, 2010; Porritt, 2012). So, there is a developing assist that an awareness of sustainability intrinsically evokes and tries to produce knowledge from an extra multi-degree and multi-systemic views and that is especially pertinent to relocate of interest on organizational behavioural factors of sustainability. While preliminary paintings have been commenced, as these days referred to via way of means of Akhtar *et al* (2017), even though numerous researches have emphasised the linkage among the corporation abilities, systems, and sustainability at organizational degree. The hyperlinks among pinnacle control touchable skills, relationship-primarily based totally on commercial enterprise networks and the environmental sustainability has now no longer been so well-explored at micro-degree.

Hence, the aforementioned background and growing research factor closer to a well-timed cause with which to look at the micro-behavioural elements of sustainability. This unique problem answers to this diagnosed want with the aid of using accumulating an innovative, treasured, and perceptive set of papers which, of their personal methods and precise methods, forged mild at the interplay of organizational conduct with sustainability from several views and organizational and official circumstances. Organizational behavioural problems live on the coronary heart of the improvement of bearable attitudes and postures. It is even though vital to apprehend that conducts underlines and decides all those withinside the shape of pasts to making plans and movements on sustainability.

2.2. Organizational Behaviour and Sustainability

The struggles round growing and combining sustainability habits in a corporation absolutely reveal, how essential powerful extrude control and studying is in a success companies. If a corporation's price of studying is not extra than its price of extrude, then it is going to fall in the back of the competition. Personnel in companies, in particular customer support led companies, are continuously fixing troubles, frequently beneath pressure and with very tight deadlines (Bertassini *et al*, 2021). But how the personnel's study and adjust to the brand-new rules in an increasingly converting world, performs an essential position and how successful their corporation is, and the way first it responds to adjustments withinside the intensely aggressive markets in which they operate. When reviewing diverse companies' leaders, we can examine first how short those groups are at adopting extrude, which includes the combination of sustainability, and the studying curve related to that. Managers in companies generally tend to assist their groups with the aid of using and making sure that they paint inside a supportive studying environment and this can imply that the personnel sense assured to invite questions, admit faults, and freely proportion innovative thoughts which can assist the commercial enterprise turn out to be extra green and powerful at the same time as integrating sustainability (Calderon *et al*, 2021). Those talents withinside the management of a corporation imply that the personnel are aware about their position, accountabilities and sense encouraged to take decisions, while being snugged with the very actual dangers which may be gifted withinside the place of business today. So, they can interact withinside the studying procedures and adapt and enforce extrude extra swiftly. It is going without pronouncing that to take this shape, the companies want to be endorsed with the aid of using concrete procedures and strategies which may be extensively communicated and realized with the aid of using the workforce, the important factor is how human beings are engaged (De Matos *et al*, 2013). Employees in a corporation, and those generally, sense pressured to extrude what they do, now no longer due to the fact they may be given an order or a record that shifts their wondering, however virtually due to the fact they may be proven a truth and the relevance and effect associated with that truth which impacts feelings, their wondering and their behaviour. In offering personnel with this awareness, extrude control impacts their dedication and encourages a better stage of engagement (Broekhuis *et al*, 2003). Sustainability to action permits us to socialise our sustainability guidelines and policies.

CONCLUSION AND RESEARCH DIRECTIONS

With the weather crisis, there may be a present-day motion toward sustainability as an extra attractive precedence for businesses, as human beings start to stay extra sustainable lives. It is possibly that, withinside the destiny, high quality effect on weather over the whole cost chain developed effect on the atmosphere, human beings and atmosphere, and effective enter

on society may be expectancies for trades. Corporations may be held liable for all elements of business, and any ecological destruction or dangerous emissions should be restrained or eradicated from the effective tactics. It is likewise predicted that bases may be reprocessed to fit the universal boom in public which is usually known as 'round economy'. This alternate could license one man's waste to be every other's resource, in a technique which may knowingly lessen the wastes and create an extra green deliver chain.

There are many crucial research dimensions on sustainability and company behaviour. A pluralist and incorporated view closer to sustainability in destiny studies endeavours is supplied here. First, the destiny studies need consciousness in an inclusive angle on sustainability control. 'Sustainability control' consists of each ecological sustainability and social-financial sustainability. A latest evaluation factor, consists of different traits and diverging assumptions among sustainability and company responsibility (Bansal & Song, 2017). Second, micro-foundations and mechanisms of sustainability for reaching aggressive blessings in global contexts is other crucial location of studies. A shade knowledge of micro-foundations and instruments of sustainability endorse capacity trails to obtain aggressive gain for people and businesses in global settings. This reverberates with the latest fight for mental micro foundations to supply aggressive blessings (Ployhart & Hale Jr, 2014). Third, conventional values and philosophies to forward sustainability, organizational behaviours, and corporation research. Traditional cultures and philosophies may also additionally offer crucial insights for the present-day sustainability control and corporation matters. Organization and control research demand an ethical and social sustaining. The expertise of beyond may also additionally provide the enlightening mind for tackling present day organizational issues.

The micro-foundational paintings additionally allow a changing of sustainability from pictures that are all regularly functionalist, reductionist and performativity (Spicer, 2009) oriented and there may be possibility to become aware of and examine a greater processual understanding of micro-behavioural styles as ladders toward constructing knowledge of the way sustainability problems function in administrative surroundings. Hence, in general, by the above method there may be capability for a sparkling look to be forged over the conceptualisation and knowledge of idea for exercise withinside the sustainability arena (Aragon-Correa, 2013). In chase of this intention, there may be choice to excavate and expand the knowledge of sustainability by micro-foundational paintings and organizational conduct concerning strategies and systems when it comes to, for instance; setting, procedures, appearance, development, and lively abilities to clarify the appearance, results of procedures, feeling, pliability, and competences entrenched in sustainability (Cooper *et al.*, 2013). These human magnitudes, transferring past greater traditional defined and express radical or cause features, may play a main position in growing sustainable arrogances and answers (Bansal *et al*, 2012). The advent of such a schedule opens out the vista on more than a few sparkling standpoints. For instance, a

greater complicated and profounder micro-foundational knowledge of organizational conduct when it comes to sustainability may also help in integration of many illogicalities and resolution of strains nearby sustainability. A vital difficulty to be discovered right here can be the ancient strains of, for example; the settlement of financial profit-purpose and capitalist motorists with communal necessities and tasks. Furthermore, a wealthy micro-foundational method may re-enter the all-too-not unusual place cognizance on a 'unit of analyses of the firm/structural degree or, similarly, a basic moulding of micro-foundations as a substitute for 'human-being' and as a substitute examines a greater all-inclusive, universal, and lively demonstrating of sustainability throughout those parts, eco-structures, and cooperatives (Christensen *et al.*, 2014). By accepting such stages, a re-agent is supplied with which to project and circulate past the rhetoric and realisms of the behavioural motorists of sustainability. Such an undertaking is becoming and well timed due to the fact sparkling strategies will help corporations in assembly the developing and converting surroundings, behaviours and demanding situations challenging corporations; as they change destiny countryside of labour communal systems and agreements.

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Mapping the Research Landscape of Indian Handloom: A Bibliometric Analysis

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Abstract: This study aims to conduct a bibliometric analysis of research publications related to the Indian handloom Industry. Indian handloom is an essential part of the country's cultural heritage, and the handloom sector has been a significant contributor to the Indian economy (Meher & Bhattacharya, 2016). In recent years, there has been an increase in research interest on this topic. The study uses data from the Scopus Database and analyzes research output, citations, and co-citation patterns to provide insights into the research landscape of Indian handloom. The R software programme Biblioshiny was used for the data analysis. The study also identifies the top authors, institutions, and countries contributing to research on Indian handloom. The findings of this study will be useful for researchers, policymakers, and practitioners interested in Indian handloom research.

Keywords: Bibliometric Analysis, Indian Handloom, Citations, Authors, Institutions, Countries.

JEL Codes: D23, L2, M1

1. INTRODUCTION

An industry with a long history reaching back to ancient times, the Indian Handloom Industry is one of the largest and oldest in the country. The cultural and economic identity of India is strongly influenced by the handloom textile industry, which is noted for its fine craftsmanship, elaborate designs, and brilliant colours. Handloom fabrics are created using age-old methods totally by hand, without the aid of any machinery or automated procedures (Islam et al., 2021). But nowadays this industry is facing lots of challenges and obstacles, especially regarding product imitation and high prices (Mishra & Das, 2020). Despite these difficulties, the business has thrived as a result of the numerous artists and weavers who are committed to maintaining traditional methods and producing handloom fabrics that are highly valued by consumers all over the world (Ghosh & Jena, 2018). Bibliometric analysis was introduced by (Pritchard, 1969) and it significantly facilitates understanding of a research area. Bibliometric analysis can offer insightful information into the research landscape of the Indian handloom sector and assist in supporting evidence-based policy and practice in light of the increased

interest in traditional crafts and environmentally friendly fashion. According to Broadus (1987), bibliometric research is a field that studies bibliographic material in a quantitative manner aiming to provide an overview of a research field. The current state of the sector, research trends, patterns, and prospective areas for future growth and development can all be learned from a bibliometric analysis. Researchers can find important issues, areas for additional research, and chances for innovation by examining the body of literature already available on the Indian Handloom Industry. With the help of bibliometric analysis, one may pinpoint important researchers, research clusters, emerging trends, and knowledge gaps by examining the citation patterns and co-authorship networks of published articles. Researchers, industry professionals, and politicians may find this information helpful in determining research priorities and formulating successful plans for the development of the handloom industry. Moreover, bibliometric analysis can aid in pinpointing the most significant organisations, journals, and writers in the industry, which helps direct the distribution of research findings and support stakeholder alliances and collaborations.

2. RESEARCH METHODOLOGY

Recently, bibliometric analyses have now become more popular for evaluating past research on a given subject and determining future research goals. Through the examination of publications, bibliometric analysis is currently utilized to assess the qualitative and quantitative interest in a very specific topic. In contrast to conventional methods of literature review, SLR allows a large number of pertinent papers to be assessed in terms of productivity and graphical mapping to help better grasp their relevance. In this present study, the Scopus database was used to gather the data. The time frame for the study is from 2002 to 2021. A total of 180 research papers were extracted from 103 sources and analyzed by using Vosviewer and Biblioshiny software. Many bibliometric factors have been assessed, including the number of publications by year, number of citations, and productivity of writers. Performance analysis and science mapping were both done for the current investigation. The study of themes and common keywords has also been done to create a roadmap for future research.
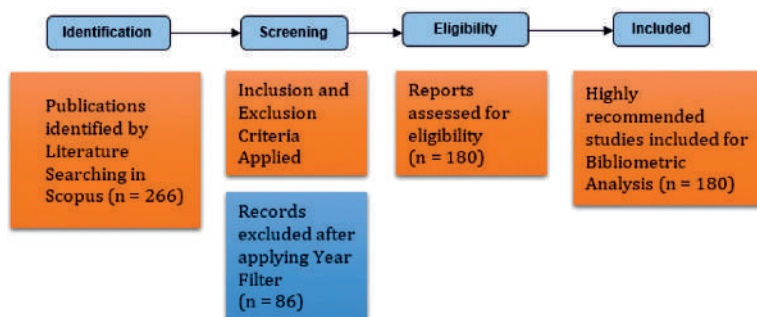

Figure 1: Four way Flow Diagram for Data Extraction

Source: Authors' Compilation

3. RESULTS AND DISCUSSIONS

Table 1: Annual Scientific Production

Year	No of Publications	Cumulative Score	Year	No of Publications	Cumulative Score
2002	3	3	2012	9	68
2003	6	9	2013	8	76
2004	9	18	2014	7	83
2005	9	27	2015	10	93
2006	3	30	2016	13	106
2007	3	33	2017	4	110
2008	10	43	2018	14	124
2009	3	46	2019	18	142
2010	9	55	2020	18	160
2011	4	59	2021	20	180

Source: Authors' Calculation
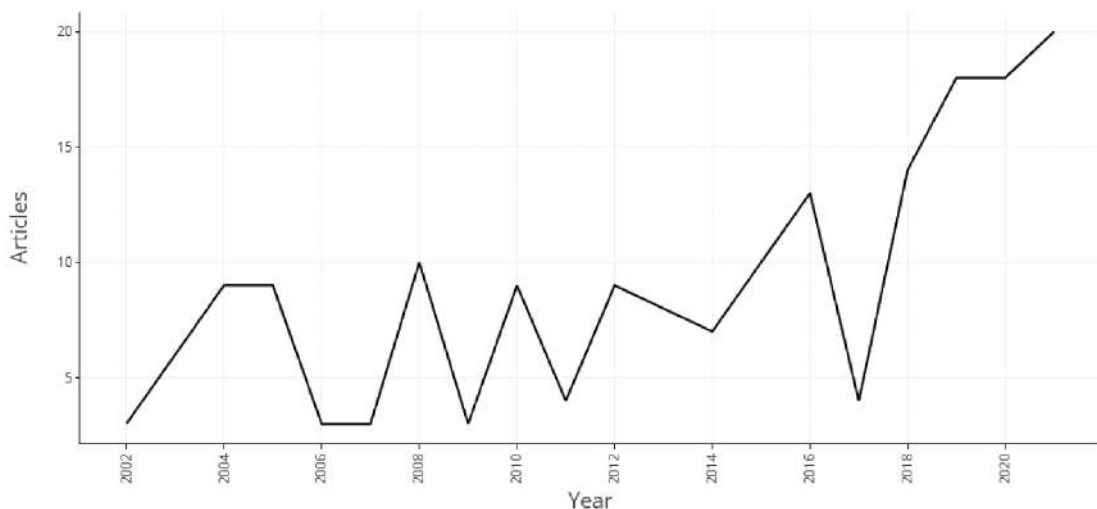
Figure 2: Annual Scientific Production
Source: Authors' Compilation

According to Table 1 and Figure 2, the researchers published 180 research publications in total between the years of 2002 and 2021. A maximum of 20 research papers could be published in 2021. A total of 18 research articles were released in the years 2019 and 2020, compared to 14 in the year 2018 (research papers). The trend line unmistakably demonstrates that there has been a huge increase in the number of research articles related to the Indian handloom industry that have been published.

Table 2: Most Relevant Journals

| Sources	Articles
Textile Magazine	12
Indian Journal of Traditional Knowledge	7
Journal of Rural Development	7
Textile Trends	7
Smart Innovation, Systems and Technologies	6
Asian Textile Journal	5
Indian Silk	5
Economic and Political Weekly	4
International Journal of Innovative Technology	4
Journal of Intellectual Property Rights	4

Source: Authors' Calculation
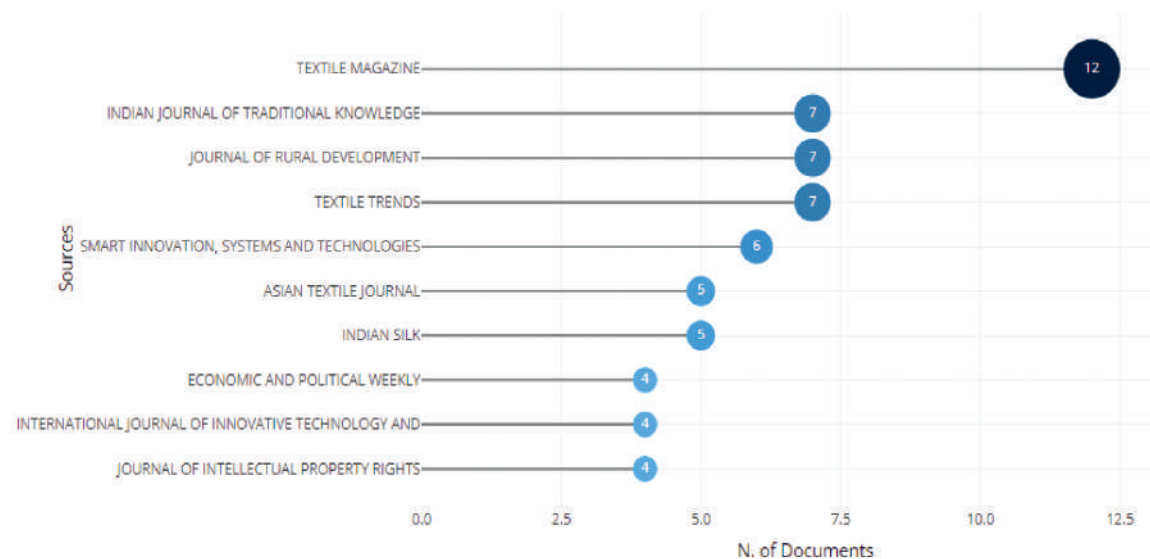
Figure 3: Most Relevant Journals
Source: Authors' Compilation

In terms of the most pertinent journal, Textile Magazine was ranked first with 12 published articles. Following that, there are 7 published articles in each of the following journals: Indian Journal of Traditional Knowledge, Journal of Rural Development, and Textile Trends. There have been five articles published about Indian Silk and Asian Textile Journal.

<div align="center">**Table 3: Most Productive Authors**</div>

Authors	Articles	Articles Fractionalized
Goswami K	7	3.00
Hazarika B	5	2.00
Benerjee A	3	1.75
Bortamuli AB	3	1.33
Haynes DE	3	3.00
Naik SD	3	1.50
Ramswamy R	3	2.00
Wielenga KD	3	3.00
Angelo MB	2	2.00
Balasubhrahmanyam N	2	1.00

Source: Authors' Calculation
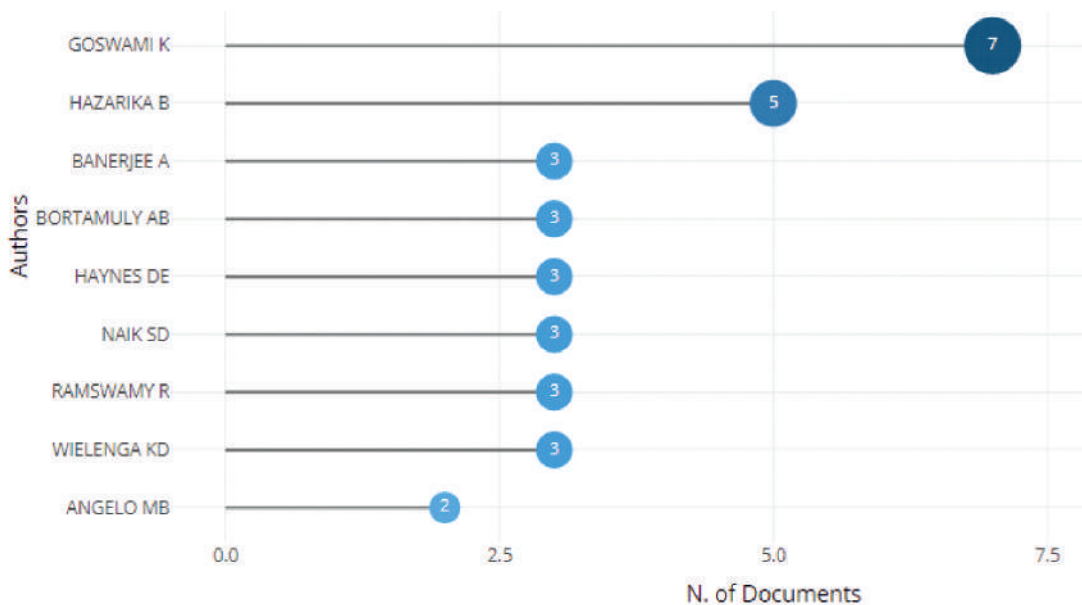
Figure 4: Most Productive Authors
Source: Authors' Compilation

Table 3 shows the top ten productive authors based on their contributions indexed in Scopus Database. Goswami K has published a total of 7 publications followed by Hazarika B having 5 publications. Whereas Beneri A, Bortamuly AB, Haynes DE, Naik SD, Ramswamy R and Wielenga KD, all have 3 research articles during this period. The same has also been presented in Figure 3.

Table 4: Most Productive Institutions

Affiliation	Articles
Indian Institute of Technology Kharagpur	9
University College of Science and Technology	7
Indian Institute of Technology Guwahati	6
National Institute of Occupational Health	6
National Institute of Research on Jute and Allied Fiber Technology	5

Source: Authors' Calculation
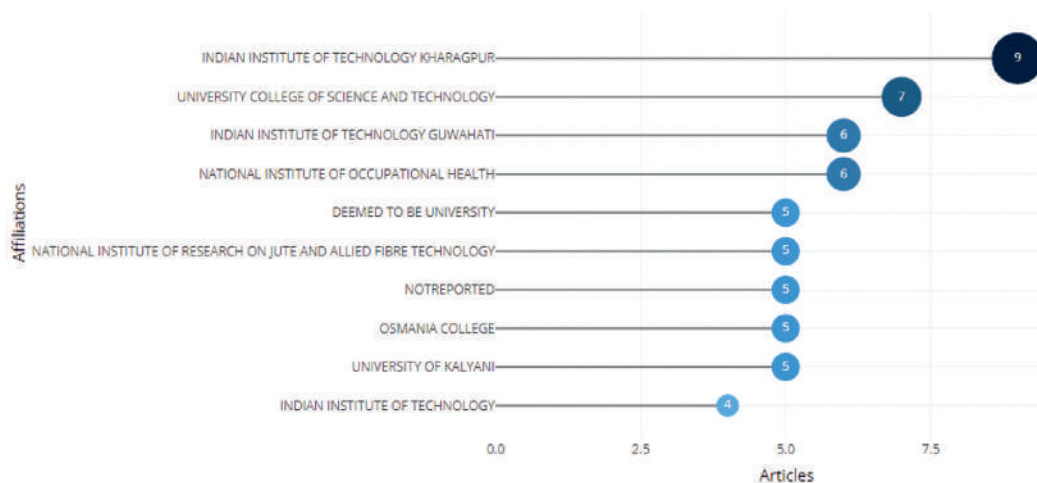
Figure 5: Most Productive Institutions
Source: Authors' Compilation

Among the top ten affiliations Indian Institute of Technology, Kharagpur tops the list with 9 documents. In the second position University of Science and Technology with 7 documents, whereas the Indian Institute of Technology, Guwahati and the Indian Institute of Occupational Health both published 6 number of articles each.

Table 5: Most Cited Country

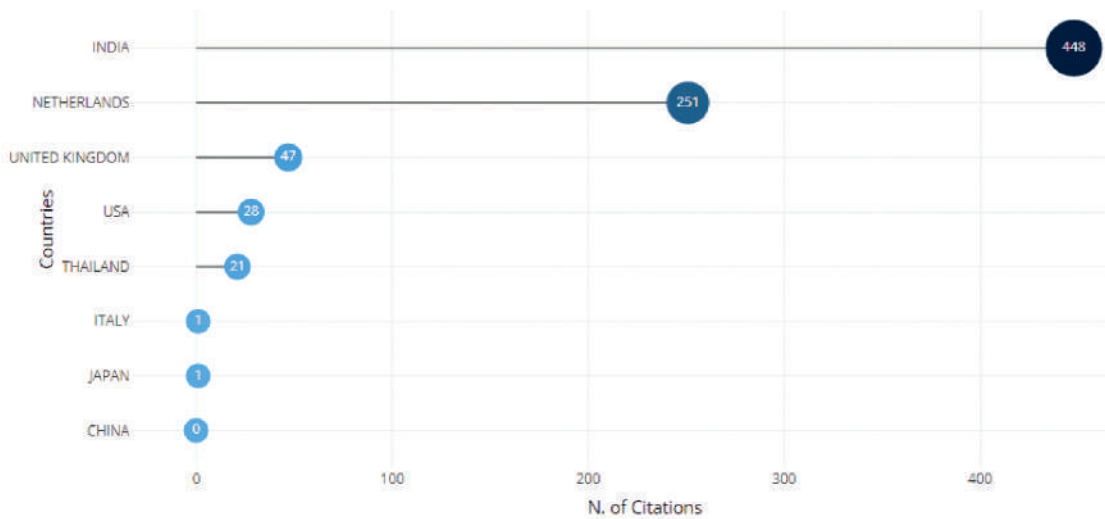| Country	Total Citations	Average Article Citations
India	448	6.03
Netherlands	251	125.50
United Kingdom	47	9.40
USA	28	6.75
Thailand	21	21.00
Italy	1	1.00
Japan	1	1.00
China	0	0.00

Source: Authors' Calculation

Figure 6: Most Cited Country
Source: Authors' Compilation

The current study also looks at the citation patterns of other nations, with India receiving the most citations (448) overall. Table 5 and Figure 6 shows the results for the top citing nations. The United Kingdom was in third place with 47 citations, while the Netherlands came in second with 251 total citations. The USA and Thailand, on the other hand, have a total of 28 and 21, respectively.

Table 6: Country Collaboration World Map

From	To	Frequency
India	China	1
India	France	1
India	Netherlands	1
India	Thailand	1
India	United Kingdom	1
India	USA	1
USA	Italy	1

Source: Authors' Calculation

The world's collaboration path is depicted on the map of country collaboration. The existence of study networks between nations. Figure 7 depicts the flow of international cooperation and demonstrates the close coordination between China, France, Netherlands, Thailand, UK, US & Italy.
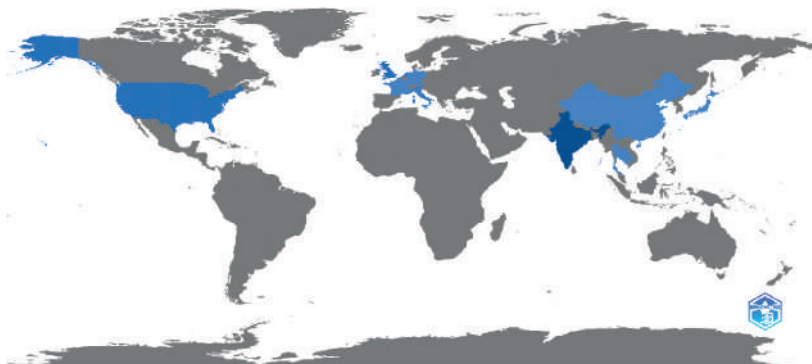
Figure 7: Country Collaboration Map

Source: Authors' Compilation

Table 8: Trend Topics

Item	Frequency	Year_Q1	Year_Q2	Year_Q3
Economic Information	5	2003	2003	2004
Weaving Industry	5	2004	2004	2004
Asia	6	2004	2005	2008
Eurasia	6	2004	2005	2008
Exports	6	2004	2007	2010
Handloom	18	2005	2008	2010
Weaving	12	2005	2008	2018
Competitiveness	6	2004	2009	2014
Textile Industry	30	2007	2010	2015
Employment	16	2004	2010	2015

Source: Authors' Calculation
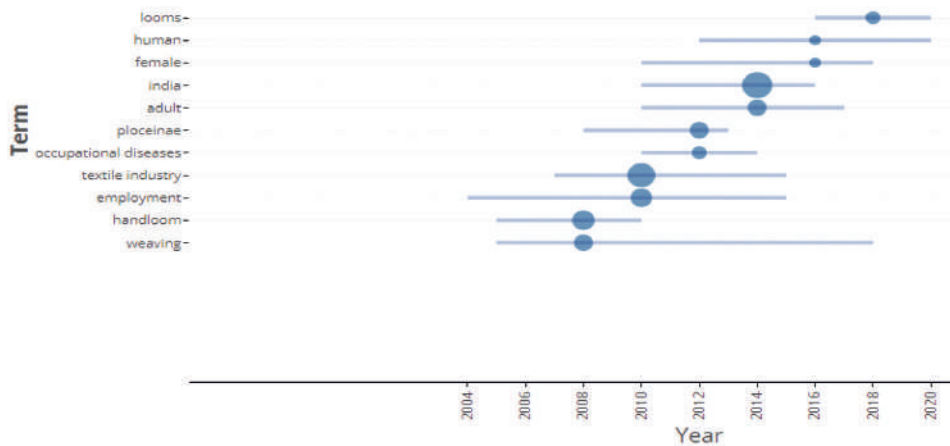
Figure 8: Trend Topics

Source: Authors' Compilation

During the period 2002 to 2021 the trend topics coined are weaving, textile industry, competitiveness, employment, occupational diseases, and exports. These are few keywords on which the researchers have studied. The textile Industry has the highest frequency of 30, whereas handloom has a frequency of 18. The topic of Employment has also been in trend having a frequency of 16.

Figure 9: Word Cloud
Source: Authors' Compilation

The word cloud is a visual representation of the most frequently occurring word or phases in the asset of bibliographic records or documents. The most common or ds or phases extracted are as follows The Word cloud shows the word cloud of keywords and it demonstrates that the word Textile Industry, Handloom and India is the most used in the literature. The other words used in the previous studies are employment, occupational diseases, economic information etc.
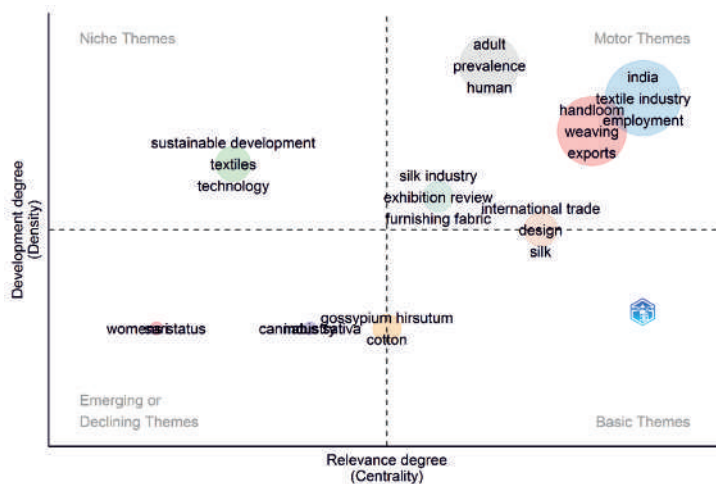

Figure 10: Thematic Map
Source: Authors' Compilation

Thematic Map displays the spatial distribution of research activity in a particular field of topic. It identifies the areas of research that are clustered for specific reasons. Motor themes consist of well-known topics of research such as employment, international trade, export, handloom weaving etc. The niche themes or peripheral themes have three topics in total i.e. sustainable development, textile and technology. These topics have weak external linkages. Basic themes which represent the lower left quadrant represent cotton, silk, design etc.

Figure 11: Keyword Co-occurrence Network

Source: Authors' Compilation

Different keywords were used in the title and abstract terms were used in the phrase co-occurrence analysis for the keyword co-occurrence analysis. It was found that the words

Figure 12: Three fields Plot

Source: Authors' Compilation

"handloom," "textile industry," "India," and "employment," were most commonly utilized in the largest cluster, which is red-highlighted. The second cluster, which is denoted by the colour blue, is particularly concerned with textiles, prevalence, the weaving industry, the handloom sector etc. Whereas weaving, handloom, cotton, dyeing, marketing etc. are all addressed in the third cluster, which is underlined in green.

Figure 12 depicts the three fields plot. It is a graphic with three elements: Author, Title and Keywords. A grey line that connects the three parts is related to each of them and connects them. How many papers are connected to each of these elements is shown by the size of the rectangle.
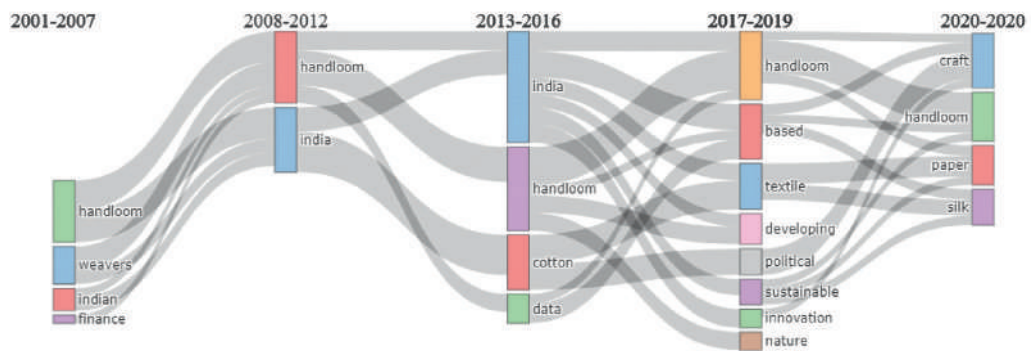
Figure 13: Thematic Evolution
Source: Authors' Compilation

Thematic evolution is done to track the emergence and evolution of research topics over time and to explore the relationship between research activities and other factors. This systematic mapping of research themes and research areas aids in the identification of research interests and their evolution over time, as well as providing insights into future research directions. The first cut-off we have taken is the year 2007. In this period the key areas of research were handloom weavers in India and finance. The second time slice is from 2008 to 2012. From the figure above it is evident that most of the research has been done on the innovation and sustainability of the Handloom Sector. These two keywords are mostly registered in any database, as maximum research works have been conducted on these topics. So far as the handloom sector is concerned, the term innovation is always been an important keyword (Ramana, *et al.* 2019).

4. CONCLUSION AND SCOPE FOR FUTURE RESEARCH

In conclusion, the bibliometric analysis of the research landscape of Indian handloom provides valuable insights into the current state of research on this important cultural and economic

sector. The analysis reveals that there is a significant amount of research being conducted on Indian handloom, with a particular focus on the socio-economic aspects of the sector, such as livelihoods, sustainability, and market trends. However, there are still gaps in research, particularly in areas such as design innovation, product development, and technology adoption. The findings of this analysis can be useful for policymakers, researchers, and practitioners working in the handloom sector, as they provide a better understanding of the existing knowledge base and identify opportunities for further research and collaboration.

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Corporate Social Responsibility Practices in India: A Bibliometric Analysis

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Abstract: Corporate social responsibility has become crucial to any company's strategic decision-making and has attained a level of significance. Government cannot succeed in its mission to improve society on its own. As a result of globalization, Liberalism, and outsourcing as well as due to the changing environment, corporates have established separate CSR wings to promote sustainable development. This paper explains regarding the corporate social responsibility practices framework in India. Bibliometric analysis has been applied for such purposes. Defining terms, choosing the database, collecting research papers, improving search results with acceptance and rejection standards, and compiling and analysing data are all steps that were involved in conducting such an analysis. The research database Dimension has been to compile articles from 2013 to 2023. Keywords like "Corporate Social Responsibility", "Practices" and "India", etc. are used for searching papers. The analysis of data is done using the R software tool Biblioshiny. The study will help in encouraging and promoting corporate social responsibility activity more in the Future.

Keywords: Corporate Social Responsibility, Sustainable Development, CSR Activity, Companies, Changing Environment.

JEL Codes: M140, G22, F64

1. INTRODUCTION

In an amendment to the Companies Act, 2013 in April 2014, India became the first nation in the world to mandate corporate social responsibility (CSR). As part of any CSR compliance, businesses can allocate a portion of their earnings to causes like hunger, gender equality, poverty, and education. Corporate Social Responsibility (CSR) and Sustainable Development (SD) are currently becoming more widely known. As a result, all kinds of organizations are working together to guarantee that sustainable development is not overlooked as they

pursue their objectives like profit making, providing social services, philanthropy, etc. To practice corporate social responsibility, businesses must incorporate social and environmental considerations into all aspects of their operations, including interactions with stakeholders. (Narwal & Singh, 2013) CSR is a method of doing business that transforms corporate entities into socially conscious citizens who actively advance the common interest. Corporate CSR combines social, environmental, and fiscal goals with business operations and expansion. The European Union has provided a definition of CSR that is frequently referenced in business and social contexts. (EU) The meaning of term "concept that an enterprise is accountable for its impact on all relevant stakeholders" is used to describe CSR. It is the ongoing promise made by businesses to act ethically, for their families, the local community, and society as a whole(Singh & Sharma, 2015). CSR is a comprehensive and integrated management idea that enables businesses to combine their social and environmental goals with their commercial goals. It employs a triple-bottom-line strategy, meaning that all of its constituents' needs are met while the company concentrates on the three Ps: Profit, Planet, and people. To promote strong human development, the majority of policy initiatives in the nation are motivated by the goals of equal opportunity, reducing poverty and human deprivation, putting a strong emphasis on basic rights, etc. (Samantara & Dhawan, 2020).

Corporate Social Responsibility is Multidimensional in nature and not limited to just one or two aspects. Customers, Workers, Suppliers, Government, Environment, and Society at large are the stakeholders in the business. Due to this, there are several business units engaged in socially responsible activities. Taking care of the company's human resources, or the personnel and workers as well as ensuring their health and safety is at the forefront of socially responsible practices. Companies can make a difference externally by improving societal welfare, health, and education. Companies engaging in such activities must ensure that these initiatives coordinate with their corporate goals for their efficiency to be at a certain level. The issue that now arises is how and how much these CSR activities will impact their stakeholders as well as their company. Companies develop various CSR policies in response to these concerns. A review of the literature reveals that there have been some prior studies (Planken et al., 2010; Sachdeva, 2010) to examine CSR activities of businesses in India, and the majority of them demonstrate encouraging trends in this field. With a focus on their host economies, which are typically developing ones, many authors have also made an effort to investigate the role of MNCs in the field of CSR (Prout, 2006; Eweje, 2007; yang and Rivers, 2009; Amaechi and Amao, 2009; Kolk and Lenfant, 2009; Tan, 2009; Adewuyi and Olowookere, 2010). The background for the current study was formed by the information that was already known in this field. In almost every field, including CSR, MNCS from around the world are fiercely competing with their Indian peers due to Indian peers due to India's popularity as a travel destination.

In this context, the study tries to explore the research questions which are as follows:

1. What is the inferential result of the study in the context of the document type, document content, authors, and authors' collaboration?
2. Which are the most occurred keywords related to the study area (word cloud and word tree map)?
3. What are the clusters and their contents in terms of authors and keywords?

2. METHODOLOGY

Dimension database was used to gather research data because it broadcasts peer-reviewed publications and conferences and contains original citation sources. A total of 631 articles that have been published have been chosen for Bibliometric analysis. The term "Bibliometric Methodology "refers to the application of Quantitative techniques like Bibliometric analysis and Citation analysis on Bibliometric data (Broadus, 1987; Pritchard, 1969).

The study's process began with the selection of the database and keywords, then moved on to the data analysis and interpretation of findings.

Figure 1: Workflow of the study
Source: Authors' Compilation

3. DISCUSSION

The results of the data analysis acquired from the Biblioshiny platform have been used to inform the discussion.

3.1. Most Local Cited Document

The above figure shows the number of local citation documents between 0 and 2000. It was found that the journal of business ethics has a higher number of local citations comprising 1749 times. The journal academy of management review has 565 local citations which are the second highest after the journal of business ethics. The journal corporate social responsibility and environmental has 392 local citations which are the third highest. The journals such as strategic management, social responsibility journal, journal of marketing, business and society,
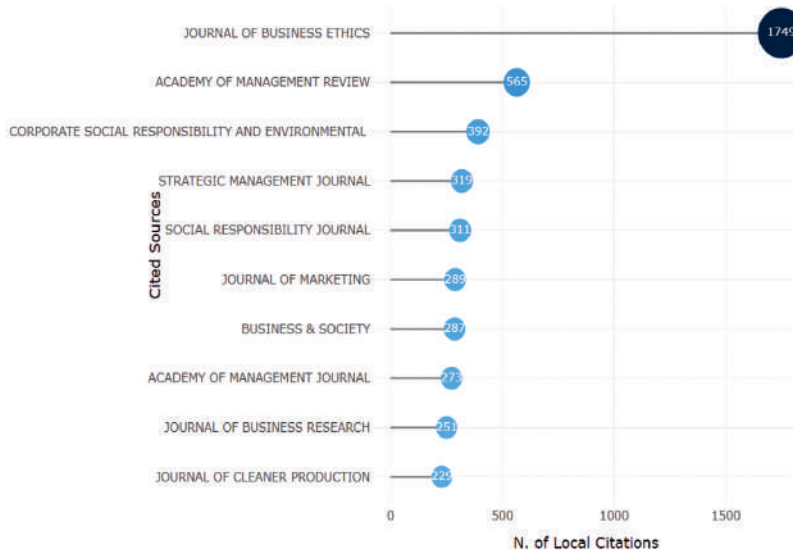
Figure 2: Most Local Cited Document

Source: Authors' Compilation

and academy of management journal have local citations between 250 and 300. The journal of cleaner production has the least number of local citations as compared to the above-mentioned sources and journals.
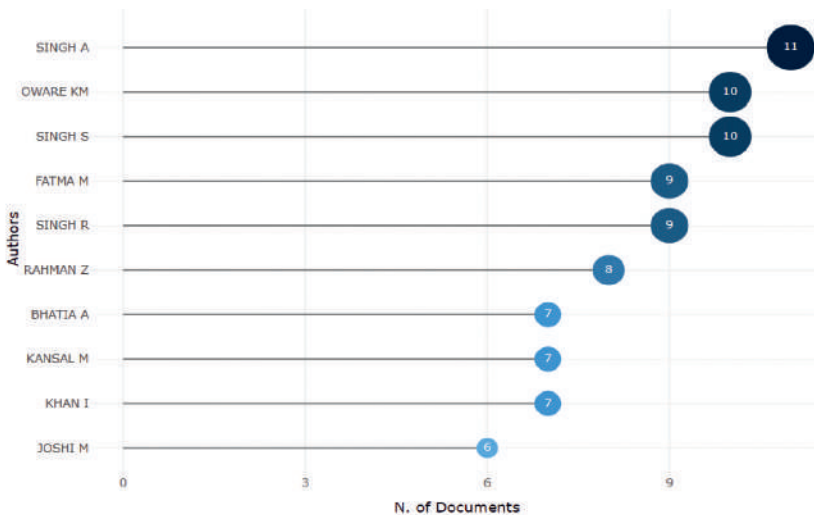
3.2. Number of Documents Cited by different Authors

Figure 3: Number of Documents Cited by different Authors

Source: Authors' Compilation

The above figure shows the number of documents of different authors cited. The author Singh A received the highest number of a citation for their article which is shown in dark blue colour where as the author Joshi M received the lowest number of citations which was reflected in the light blue colour. After the author Singh A, the authors Oware KM and Singh S has the highest number of citation, both of them have 10 citations. The author Fatma M and Singh R has 9 number of citation, and the author Bhata A, KAnsal M and Khan I have 7 a citation for their articles.

3.3. Word Cloud

The size of the words in the word cloud here reflects how frequently they occur. Although the order of the words is somewhat random, the important words are placed in the middle and given a large size to make them more noticeable.

Figure 4: Visualization of the Words that have Appeared Most often in the Papers on the Topic of Corporate Social Responsibility Practices in India

Source: Authors' Compilation

The word cloud in Fig. 3 reveals the visualization of words that appeared most often in the paper on the topic of Corporate Social Responsibility practices in India. The most common word is "CSR", the second most common word is "Corporate", and the third most common word is "Social" followed by "Responsibility" and "Companies" which infers that researchers have studied the Corporate Social responsibility Practices in India.

3.4. Thematic Map

Four topological regions are made on a thematic map and are based on density and centrality. This outcome was attained by semi-automatically examining the titles of all the references

looked at in this research, as well as other pertinent keywords (other than the author's keywords) to capture deeper variations.
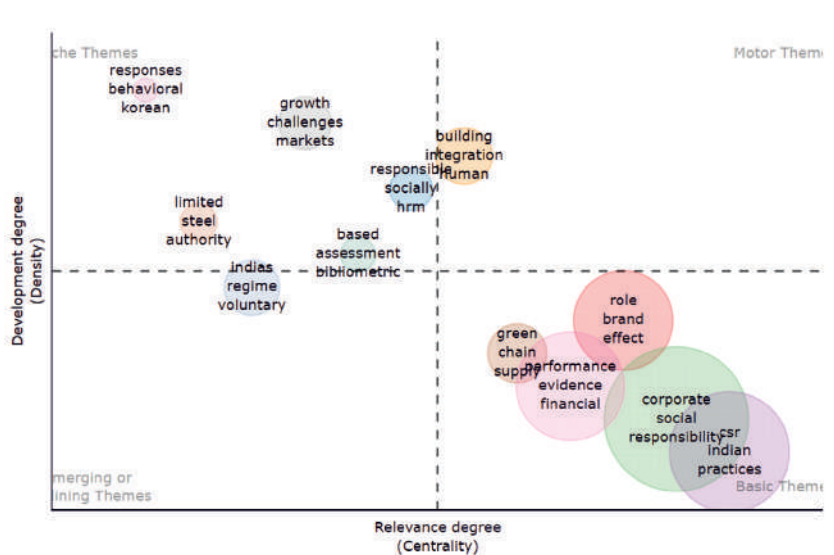
Figure 5: Thematic Map based on Density and Centrality, Divided into Four Topological Regions

Source: Authors' Compilation

The upper right quadrant contains "motor" or "driving" topics, which are indicated by high density and centrality; these topics are important for future research consisting of the theme-building integration of humans. The top left quadrant contains specific and under-represented topics that are nonetheless areas of rapid development, as indicated by the high density of responsible behavioural Korean, growth challenges markets, responsible social HRM, limited steel authority, and based assessment bibliometric.

The lower quadrant contains topics that have been used but have not decreased in popularity, as evidenced by low centrality and density, this region includes "India's regime voluntary". Finally, the lower right quadrant contains basic topics, indicated by high centrality. This topic is important for general research and includes a section on "green chain supply", "role brand effect", and "performance evidence financial". "Corporate social responsibility", and "CSR Indian practices".

3.5. Thematic Evolution

The evolution of the themes is depicted in the image below from the period from 2013 to 2023. The data reveal several frequently used topics. Some of the motifs that will be popular from 2013 to 2017 are displayed on the left side. Twenty-two themes are listed, each with a

varying size based on how frequently used. The middle section reflects the most used themes from the period between 2018 and 2021 containing a total of nineteen themes. The right section displays the most frequently used themes in the period between 2022 and 2023. Fifteen themes are listed, each with a distinct size based on how it will be used.
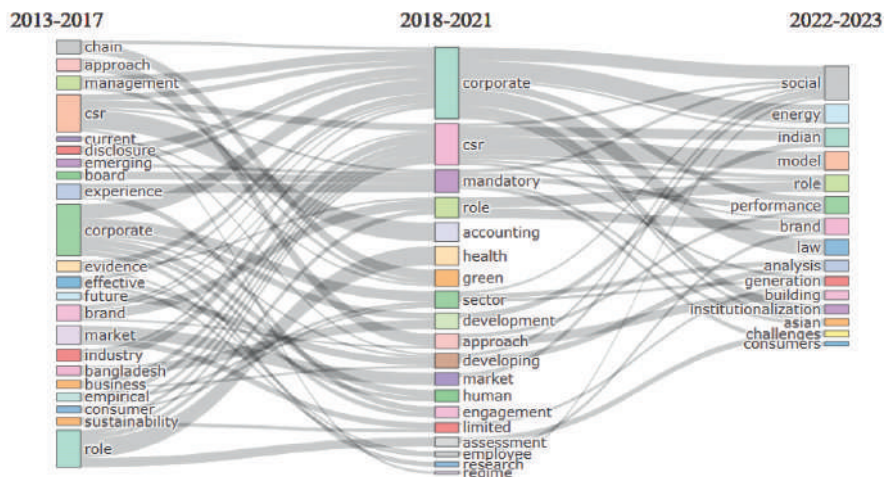
Figure 6: Thematic Evolution
Source: Authors' Compilation

The left section shows that from 2013 to 2017. The word "Chain" has been first added to "Green" and then added to "Corporate". The second-word "Approach" is added to "Approach" only. The third-word "Management" is first added to "Corporate" then "Green" whereas the fourth word "CSR" is first added to "Corporate" and then "CSR" and also added to Mandatory. In the middle section, the thematic evolution is reflected from the period 2018 to 2021. The first word "Corporate" was added to "Social", "Indian", "Energy", "Performance" "Law" and "Institutionalization". The Second word "CSR" is added to "Social", "Indian", "Model" and "Analysis". And the third word "Mandatory" is first added to "Social" and then to the "customers". In the right section, the theme from the period 2022 to 2023 is shown. The word "Social" is added to "Corporate", "CSR", and "Mandatory", then the word "Energy" is only added to "Corporate" whereas the word "Indian" is first added to "Corporate", "CSR" and "Sector" and so on. The thematic evolution infers that Corporate Social Responsibility is a mandate for Indian companies. All the companies are practising CSR activities within their capacity and interest.

3.6. Tree Map

A description of the terms that occur in various forms in a group of papers from the current research is provided in the word "*tree map*" below
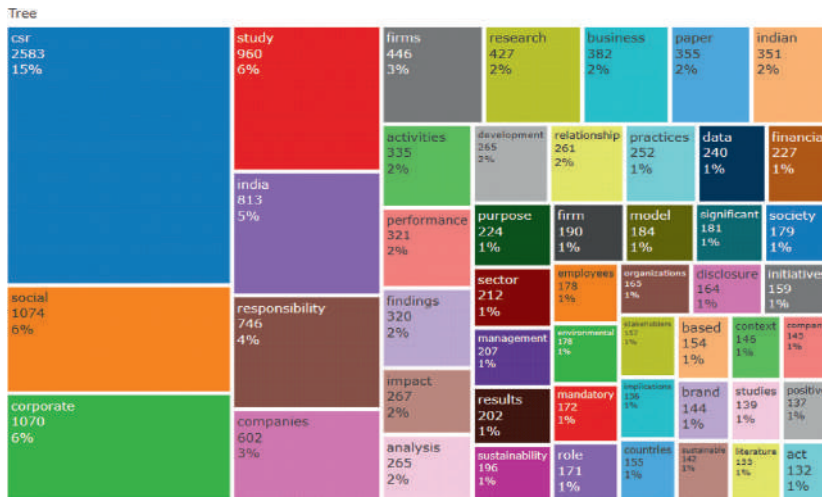
Figure 7: Word Tree Map

Source: Authors' Compilation

First, the term "CSR" is widely used 2583 times which is 15% of total usage. The word "Social" is the second most used word which is used 1074 times comprising 6%. And in third place, there is the word "Corporate ". Similarly the word "Responsibility", "Study", "India" and "Companies" ranges from 3 to 6%.

3.7. Keyword Co-occurrence Network
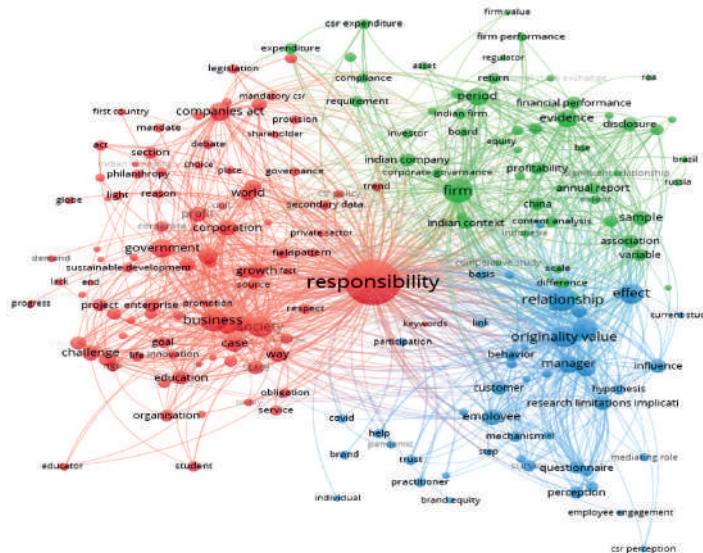
Figure 8: Keyword Co-occurrence Network

Source: Authors' Compilation

The keyword co-occurrence analysis has been done with various keywords in both the title and abstract words used in the phrase co-occurrence analysis. The most frequently used word was discovered to be responsibility, relationship, firm, society and business. Three groups have been discovered. The largest grouping is highlighted in red and it concentrates on the words such as responsibility, business, government, society etc. The second cluster which is highlighted in blue focuses primarily on relationship, originality value, effect, perception, employee etc. the third cluster which is highlighted in green, is concerned with firm, sample, evidence, period, disclosure etc.

3.8. Three fields plot
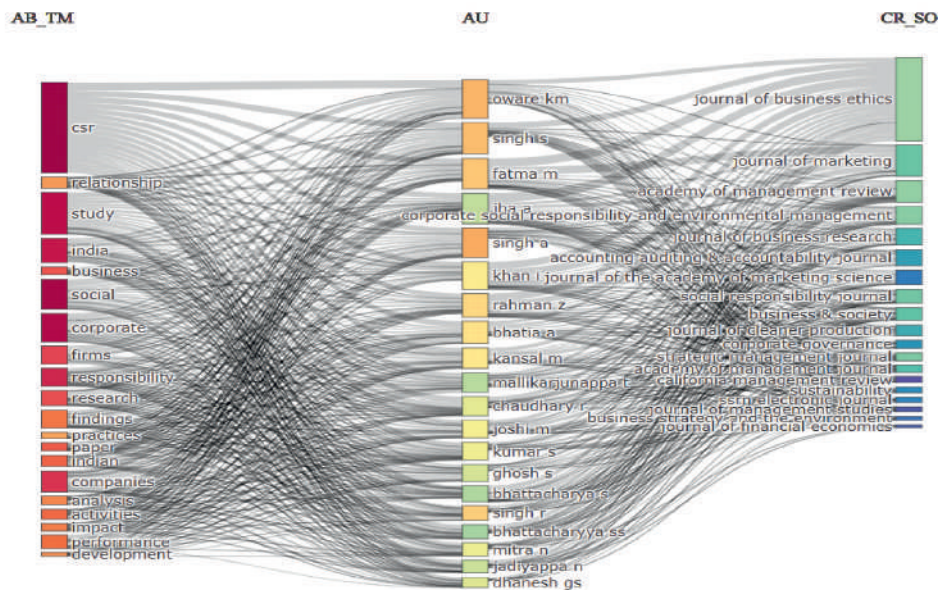
Figure 9: Three Fields Plot
Source: Authors' Compilation

The three fields plot is shown in figure 3 which is a picture comprising of 3 elements in it which are the name of the publication journal, a list of authors' names and the themes or the topics used. The three elements which are mentioned are connected with a grey line which is related to one another. Starting with the name of the journal, each writer identifies the author who frequently contributes to their publication, each journal identifies the author who frequently contributes to their publication and finally, each writer identifies the subject on which they frequently research the subject of corporate social responsibility. The rectangle's size demonstrates how many papers are linked to each of these components.

4. CONCLUSION

In the business realm, corporate social responsibility (CSR) has grown in importance. The best method to regulate CSR is still up for discussion. Different nations implement CSR in different methods. CSR is self-regulated in many nations and is governed by codes of behaviour and in other countries, it is strictly enforced by laws. In most nations, disclosure of CSR and sustainability practices is mandated by corporate legislation or stock exchange listing. The paper tried to emphasize the corporate social responsibility practices across India through a bibliometric analysis. Many research works on corporate social responsibility have been conducted throughout the world. As per the above analysis which is done with the help of R software, it is found that in the thematic evolution, the most important themes are found to be market, industry, corporate, social, consumer, society etc. the most key occurrence founded are responsibility, relationship, firm, society, business etc. the journal of business ethics has received the highest number of local citation whereas the author Singh A has received the highest number of citations for its documents. To examine corporate social responsibility from different perspectives, several research papers were published. However, their corporate social responsibility in building their nation's economy was not as heavily emphasized, providing a platform for new researchers.

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Climate Change Adaptation in Rural Odisha: A Comprehensive Analysis of Rayagada District of Odisha

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Abstract: Climate change negatively affects the food security and sustainability of agriculture in India. Indian Council of Agricultural Research (ICAR) has instituted a worldwide project in the year 2004 to study the impact and implications of climate change on agriculture, especially on agriculture in India. In compliance with the objective of the project, the present study was undertaken to examine the effects of climate change on agriculture and its allied activities in the southern Odisha district of Rayagada. Widespread poverty is discernible throughout Rayagada district. It was felt that a close and intensive interaction with the farmers of the district would be very helpful to ascertain the effects and influences of climate change on the agriculture of this region, as their feedback would be based on their own direct exposure and experience with the changes in climatic conditions in their area. Accordingly, the project formed a few groups of local farmers for obtaining and recording their responses, reactions, perceptions and opinions on relevant issues relating to climate changes on agriculture in Rayagada. As many as 95 farmer's households were included in a survey in which major variables of information and data collected were mainly on issues like size of their firm, level of their income, credit facilities availed by them, and the various impacts of climatic changes on their agricultural activities. The researcher found and concluded that climate change has affected food security and the sustainability of livelihood of the rural people of Rayagada and that they would like to see various remedial measures initiated by the government to tackle the adverse effects of climate changes on the agriculture in their district.

Keywords: Climate Change, adaptation, rural Odisha.

JEL Classification: Q56, Q57, R11

1. INTRODUCTION

Disastrous effect of climate change has been found on physical and biological system all across the world. Climate change has reduced 1 to 5 % of global agricultural production per decade. Rapid and uncertain change of temperature and rainfall pattern results in a significant fall in the production of important and stable food crops. Indigenous knowledge

of coping mechanism of age-old tradition like crop intensification and diversification can be the best solutions to the crop unproductively. Climate change and food security are two very complex terminologies. Because those concepts can be accessed through different dimensions. Fulfilment of one dimension cannot mitigate the havoc of climate change and food insecurity. Indigenous people use wide varieties of cultivation of food crops to meet their nutritional needs and hunger.

Process of production of goods and services for the market makes us engaged with interactions between external environment and consumer environment. From the natural environment business inputs and transfers into finished products to meet the needs of the consumers. Therefore, the natural environment is instrumental in business growth and ultimately the economic growth. Natural environment in the contemporary world faces the pollution and hence resource depletion. No doubt modern industry has provided material prosperity of the world of business. But it has posed environmental threats to the business, future generations and all present lives. Today's business technology manipulates and controlled nature and pollutes our environment rapidly by depleting our natural resources. More than 200 billion tons of pollutants are pumped in to the air we breathe more than 45 million tons of toxic based are produced and more than 18 million gallons of pollutants are thrown into our country's waterway. Consumption of natural oil produces air pollutants. On an average, we people produce garbage of more than 1500 pounds of metal, 20000 pound of other material and over 5 pound of homely garbage everyday per year.

As per the report published in 2000 by the World Watch Institute, a group of researchers, found that this 21st century has been witnessing massive population growth, rising trend of temperature, fall of the water table, shrinking crop lands per person owing to rise of water level in oceans, eating up the coastal area all over the world used for agriculture, collapsing fisheries owing to unscrupulous fishing companies operating in earth's oceans all over the world. Further, it also witnessed shrinking forest-lands and the loss of varied animal and bird species on earth. Their Report projects population growth over 10 billion by 2050 in country's which are overpopulated. The rise in temperature owing to air pollution, water pollution and land pollution. The rising temperature owing to the atmospheric concentration of carbon dioxide, global temperature in 1971 was 14 degrees Celsius, and in 1998 it rose to 14.50 degrees Celsius. If Carbon dioxide concentration doubles, then the global temperature is likely to raise by at least 1 degree Celsius more. This will result in sea level rise by a minimum of 17 centimetre per year, and by 2100 the sea level may rise by 1 meter. This will alter the very ecosystem on earth. Coral reefs are adversely affected in all oceans.

The record sea surface temperature over the last 3 years wiped out 80% of corals in the Indian Ocean. The temperature rise in the ocean surface is melting icecaps and glaciers. Ice

cover is shrinking in the Arctic Ocean, Antarctic Ocean, Alaska, green land, the alps, the Andes, the Tibetan plateau. The accelerated trend in ice-melting attribute original rise in average temperature of 2.5 degree Celsius since 1940. Over pumping of water as resulted in continuous fall of water table in China, India Africa, Southiarab and the United States. Over pumping of water has accelerated about 160 degree billion tons of water per year. The author understands roughly more than 10000 tons of water to produce 1 ton of grains. This is equivalent to 160 million tons of grains. The food supply of 500 million people is being produced with the unsustainable use of water. It is worth debating how to feed the projected growth in population adequately over the next 2 decades in the said scenario of shrinkage in crop line per person. If the world grain area remains same, the area per person in this world will shrink to 0.08% hector. by 2050. Humanity heavily depends on oceans for food. The trends of fall in water level, shrinking crop land area per person, levelling of the oceanic fish catch, suggest that it will the farm of difficult to keep up with the growth in world demand for food over the next half-century. It seems mankind will not stop actions until she has suffered greatly and much that she now realises upon has been destroyed. As the world is going to be crowded twice with human beings and human generations confronted with dwindling resources in the midst of mounting accumulation of waste and garbage, a steady deterioration environment we can only foresee social unrest of an intensity greater than any we have so far known. Briefly explaining the dimensions of pollution and resource depletion only air pollution aloe has brought global warming, ozone depletion, acid rain, airborne toxics and deteriorating air quality. Water pollution is going to greatly affect the next generation of humankind. The human being will not stop destroying their own environment till her suffers greatly.

BACKGROUND OF THE STUDY AREA

Bishamkatak, C.D. Block is a part of Bishamkatak tehsil under Gunupur Sub-division, located in the eastern part of Ravaged District at a distance of 48 km from District Head Quarter. It is surrounded by Muniguda. C.D. Block from North West and north. It is located in western undulating of Odisha. The geographical area of the block is 622.055 square kilometre out of which 83.49sq km in forest area. According to census 2001 report, total population of 75366 persons, 16.87% and 66.23% belongs to scheduled caste and scheduled tribe community only. The gender ratio of this block is 1069 and SC and ST population is 1032 and 1096. Out of the total population 50.48% are workers and among the total worker 15.45% and 69.38% ST. Overall literacy ratio among them are 25.90 for total population, 24.71 for SC and 17.63 for ST. Out of total area, 30.23% is cultivable area and 5.35% of the cultivable area is irrigated. Average land holding size is 1.07Hect. In this block Out of total 307 villages 122 (40%) are electrified.

Table 1: Administrative set up

Sl no	Indicators	Total
1	No. of GramPanchayats	20
2	No. of Villages	307
3	Total geographical areas	622.055sqm
4	Administrative(Adm) zone	Southern
5	Language spoken	Odia/khond/kui/telugu/savara
6	Dominant scheduled tribe	Khond/kondadora/jatapu/matya
7	Density of population(Per sq m)	121
8	Annual average rain fall	1258 mm

Source: Compiled from different sources

Table 2: Demographic profile

Sl no	Indicators	Persons	Total	ST
1	Population	Male	36432	23816
		Female	38934	26102
2	Sex Ratio		1069	1096
3	No. Of Literates	Male	11204	5467
		Female	4843	1749
4	Literacy Rate (%)	Male	37.7	28.28
		Female	15.02	8.10
5	Agriculture Land Pattern (In Acres)	Barren And Non-Cultivable Land		34233
		Cultivable Waste Land		
		Old Fallows		431
		Current Fallows		
				1891
				2699

Source: Compiled from different sources

3.   LITERATURE REVIEW

3.1. Climate change and Adaptability

In the words of (Boyce *et al.*, 1993, DeGonzague *et al.*,1999; Kuhnlein and Receveur, 1996; Norgaard, 2005) the effects of climate change on biochemical functions, ecosystems, and organisms population Pose an increasing challenge to ethnic eating habits. Tribals are facing healthcare losses as ethnic food consumption diminishes. Fatness, diabetes, and cancers, which were once uncommon in conventional food groups, are now causing medical complications in tribal groups across the United States. For instance, the plurality of Karuk people these days, their territory runs along of the middle Klamath River in California, has seen a nearly total removal of 2 conventional mainstays from their traditional regular eating habits: salmonids

(Oncorhynchus sp.) and acorns. (Notholithocarpus and Quercus sp.). A typical Karuk diet consisted of 50% of these items. Such decline is accompanied by a sharp increasing rate of diabetes out of 21% of the population and heart disease (40% of the population) (Norgaard 2005). Global warming is believed to pose serious hazards to salmon (Mote *et al.* 2003, Dittmer 2013; Grah and Beaulieu 2013; Beechie *et al.* 2012). Salmon is essential to the psychological, physiological, and traditional well-being of several indigenous peoples (Dittmer 2013). Overfishing, habitat destruction, urban development, and water distribution for a wide range of human use have all contributed to substantial reductions in salmon populaces during the past two millennia (Mote *et al.* 2003), with far-reaching consequences for the people groups whose lifestyles and societies are entangled with them. For other tribes, the loss was sudden and complete: with the completion of the Grand Coulee Dam on the Columbia River and the refilling of the lake behind that, the Colville Tribes lost access to both salmon and their traditional fishing grounds in recent years (McKay and Renk, 2002). The pace of climatic changes is potentially amplifying pre-existing stresses and introducing new ones, such as swings in stream flows as well as water extremes that restrict salmon fry survival (Mantua *et al.* 2010). It is worth noting that indigenous peoples get a long history of adjusting to sizable environmental changes caused by a variety of factors. Diminished animal and fish species, for example, as a result of commercialisation and sports purposes, have altered the habitats on whose indigenous peoples rely for sustenance and trade (Cronon 1983). Dams are another example; indigenous peoples' worries about dams and their consequences on the well-being of fish and animal species, along with health impacts, have long been reported.

3.2. Climate change and food security

Tribal attempts to increase community and property managers participation in managing to conserve and recover aspects of these ecosystems are rising. Coastal Louisiana tribes are witnessing a deterioration in traditional food supplies as a consequence of land loss, saltwater intrusion, and estuary disruption caused by increased storm activity (PNW TCCP 2012). Moose habitat is changing for Athabasca people in central Alaska. Moose are an essential staple diet, and the moose population loss has put a strain on people's dietary patterns. Apart from changes in moose range, shooters have found that moose appeared to be less healthy (Daigle and Putnam, 2009). Cold weather sea ice coverage is shrinking rapidly owing to climatic changes, and this decline is harming Pacific walrus populations, going to harm Alaskan traditional food security (Verbrugge 2010; IPCC 2007a). Throughout history, indigenous peoples have had access to various traditional meals. Tribal communities inspire innovative socioeconomic and technical systems for acquiring, processing, and storing food (Anderson and Parker, 2009). In spite of the wide regional climate stresses that lowered salmon populations and habitat quality, historical evidence in the Pacific Northwest reveals fairly steady usage of salmon over the last

7,500 years (Campbell and Butler, 2010). Climatic Change, found in strong, multilayered links to the resources consumed, adaptive resource management, and attitudes and social structures that maintained salmon harvest within sustainable levels, is the key to this resilience (Campbell and Butler, 2010).

Traditional ecological knowledge gives us how climate change may affect ethnic diets. However, limited access to a fraction of tribal lands, the competition tribes face when gathering, the ongoing effects of colonisation and urbanisation, and the current state of environmental degradation all pose significant threats to tribes' ability to maintain tribal wellness and their traditional lifestyles.

4. OBJECTIVES

1. To find out how climate change affects food security and sustainability among the rural farmers of Rayagada district.
2. To study the farmer's perception towards climate change.
3. To find out the association between climate change and sustainability.

5. HYPOTHESIS

H_1: Climate change affects the food security and sustainability among the rural farmers

H_2: There is no association between farmer's perceptions with climate change

H_3: Climate change is purely associated with the sustainability of farmers in the current situation.

6. RESEARCH METHODOLOGY

Considering the stated objectives, the research methodology was formulated. The methodology of the present study comprises the selection of research approach, research design, population, and sample, sampling technique, development of the tool, data collection procedure and plan for data analysis. Research work can be undertaken in two broad areas viz, qualitative research and quantitative research. Present study comprises the demographic variable like age, gender, educational qualifications, marital status and income of the respondents.

Sample size of the study was 95. Purposive sampling technique was used for the present study as researcher includes all the samples who meet the inclusion criteria. The data will be analyzed by using descriptive and inferential statistics as the objective and presented in the form of table.

6.1. Sampling Technique

The study was based on primary data. The information collected through questionnaires from the respondents of Rayagada district of Odisha. Primary data about climate change among tribal farmers from four different selected blocks was considered. Both qualitative

and quantitative data are used for analyzing and drawing inferences and conclusions. The information's are collected for the purpose and objectives of the study. In this study purposive sampling techniques was used. . Total 150 questionnaires served to the tribal farmers and 95 responses were received and correct.

7. ANALYSIS AND INTERPRETATION

Table 3: Demographic profile

Demographic Profile	Years	Frequency	Percentage %
Age	(1). <30	10	10.5
	(2). 30-40	46	48.4
	(3). 41-50	35	36.8
	(4). >50	4	4.2
Gender	1. Male	69	72.6
	2. Female	26	27.4
	3.Transgender	0	0
Marital Status	1. Married	80	84.2
	2. Single	15	15.8
	3. Divorce	0	0
	4. other	0	0
Educational Level	1. Illiterate	35	36.8
	2. Primary	9	9.5
	3. Secondary	16	16.8
	4. Higher-secondary	19	20
	5. Graduation	15	15.8
	6.Post-graduation	0	0
	7. Dropout/others	1	1.1

Source: Compiled from different sources

In this above table 48.4% respondents are 30-40 age groups where 72.6% are male persons. In this demographic table 8.2% respondents are married and maximum persons are illiterate and nobody has passed the post graduate level.

Table 4: Income source

		Frequency	Percentage (%)
Income source	1. Arable land	80	84.2
	2. Non-arable land	5	5.3
	3. others	10	10.5
	Total	95	100.0

Source: Compiled from different sources

In this table no 4; Respondents' income source is agricultural land. From which 84.2% are arable land and they are able to do crop productions in this land.
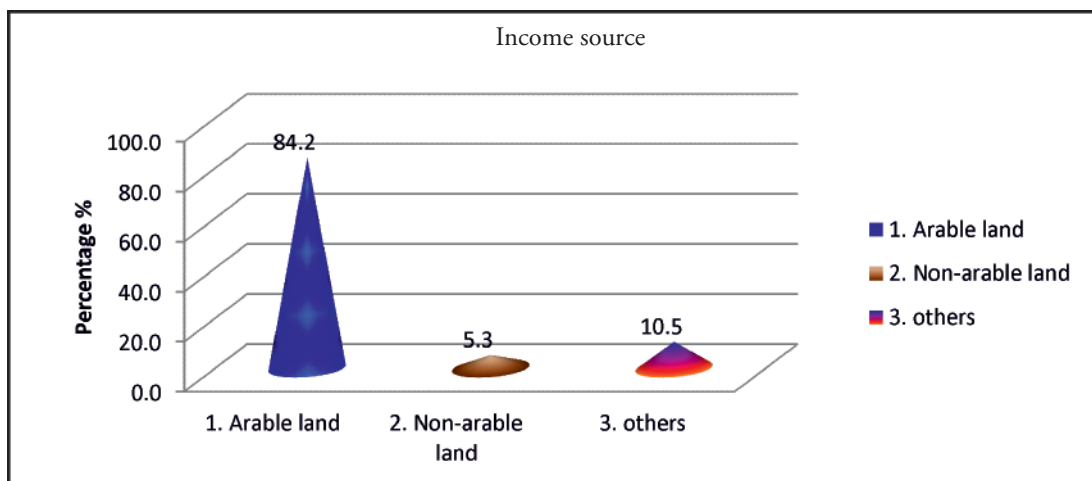
Figure 1: Income Source of the Respondents

Source: Authors' Compilation

In this above figure, most of the lands are arable land as compared to other lands.

Table 5: Water Source Availability

		Frequency	Percentage (%)
Water source availability	1. Canal	0	0.0
	2. Deep tube well	0	0.0
	3. Rain Fed	64	67.4
	4. Both deep tube -well & Rain-fed	17	17.9
	5. River	14	14.7
	Total	95	100.0

Source: Compiled from different sources

In this figure most of the respondents are depending upon the rainfall of water.67.4% of respondents told about the rain fed in this areas. So it will very difficult for them to cope with the climate for production.
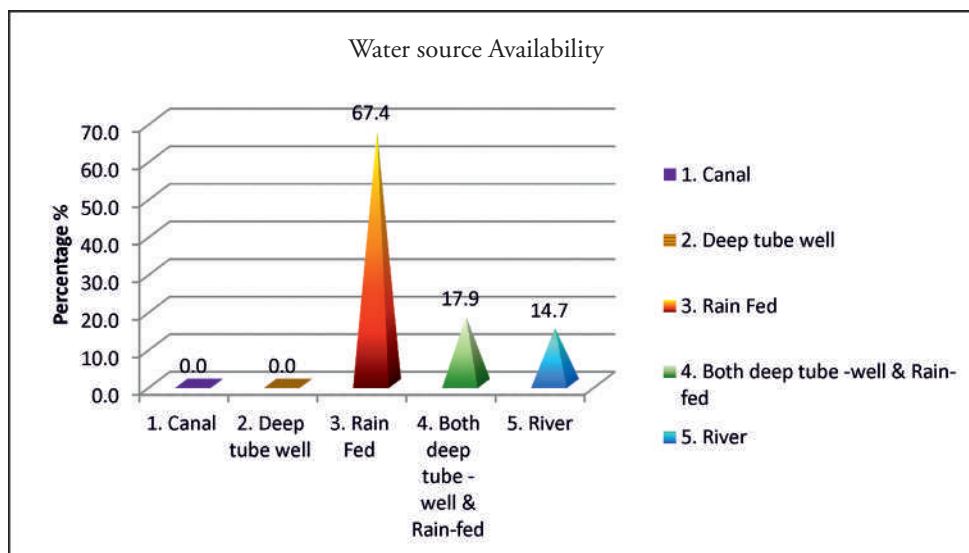
Figure 2: Water Source Availability

Source: Authors' Compilation

Table 6: Association between Farmer's Perception about Climate Change Risks, levels of Security with Selected Demographic Variables

Demographic variables	Chi-square value	DF	p-value
Age (years):	4.82	6	.567
Gender	5.65	2	.059
Marital status	1.73	2	.420
Education Level	7.92	10	.637
What do you do whole day?	1.52	6	.958
Income source	1.62	4	.806
Land preparation	1.03	4	.906
Ploughing per year	0.33	2	.850
Water source availability	4.17	4	.383

Source: Compiled from different sources

$p \leq 0.05$ (significant)

From the above Chi-square table we found that the p-value is greater than 0.05. So it is not significant. But null hypothesis is accepted. That means there is no association between farmer's perceptions about climate change risks, levels of security with selected demographic variables. But in case of Gender p-value is equal to 0.059 that is significant but null hypothesis is rejected that means there is association between farmer's perception about climate change risks, levels of security with selected demographic variables

Table 7: Correlation between Farmer's Perception towards Climate Change and Insecure Livelihood on Crops Production

Climate change	r=0.96
Insecure livelihood on crops production	

Source: Compiled by author

The above correlation table shows that Karl-Pearson's coefficient of correlation is 0.96. So there is a high positive correlation. Crop production directly depends upon the effect of climate change.

8. CONCLUSION

There is an association between farmers' perceptions towards climate change risks with the selected demographic variables. The correlation coefficient between climate change and livelihood on crop production is 0.96. That means there is a strong positive correlation exists between climate change and adaptability. Climate change has also affected food security and sustainability of livelihood of the rural people of Rayagada and they would like to see various remedial measures initiated by the government to tackle the adverse effects of climate changes on the agriculture in their district

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