

IITM Journal of Business Studies(JBS)

“A UGC CARE Approved Journal”

Annual Journal of Institute of Innovation in Technology & Management

Contents

1. A bibliometric approach on retirement investment studies.
2. Analysing financial performance of Indian automobile sector in context of achieving Sustainability.
3. Assessing the impact of de facto trade globalization and regulatory quality on ecological footprint. Evidence from Japan.
4. Convergence to Ind as: An investigation of factors affecting perception of chartered accountants.
5. Customer expectation and satisfaction of housekeeping services: A bibliometric analysis of data.
6. Design thinking & virtual management training: a systematic literature review.
7. Discovering relationship between social media usage and cybersecurity awareness: An association mining analysis
8. Integrating philosophy in modern management for excellence and productivity: Cases and reflections on ecological footprint. Evidence from Japan.
9. Representation of underrepresented group: A case of women political sustainability.
10. Sustainability and innovation practices in leather and footwear industry: A systematic content analysis.
11. Systematic mapping of the foreign exchange rate-stock market relationship using BibExcel, and VOSviewer

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A BIBLIOMETRIC APPROACH ON RETIREMENT INVESTMENT STUDIES

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ABSTRACT

Financial planning necessitates a comprehensive assessment of an individual's current and future financial circumstances. This study aims to review and assess the existing literature on retirement financial planning with 9397 research. While financial planning, in general, has received substantial attention, retirement-specific planning remains fragmented and limited. The available literature is disjointed, predominantly subjective, and narrow in scope. Notably, despite a recent surge in research prompted by the pandemic, investment and financial planning remain underrepresented in conjunction with retirement and pension keywords. This study offers valuable insights for academics and policymakers to identify areas necessitating further research in retirement financial planning.

Keywords: Bibliometric, Financial Planning, Investment, Retirement , Saving.

INTRODUCTION

A detailed assessment of one's current and future financial status is necessary for financial

planning. The process of achieving one's life goals through the effective management of funds is always evolving. A thorough evaluation of one's present and prospective financial situations is required for financial planning (Goyal & Kumar, 2020). The process of achieving one's life goals through the effective management of funds (such as purchasing a home, funding a child's higher education, establishing a business, etc.) is always evolving (Kumar, Tomar, & Verma , 2018). Ageing populations are a fact of life, both domestically and internationally and also life satisfaction and well-being are impacted by financial behaviour. Because it might lead to financial issues, income level has been regarded as a crucial indication. Retirement as perception is a decision-making process that lasts a lifetime. Individual financial planning has existed in some capacity for a very long period. However, the continuous rise in the standard of life, the introduction of complex financial instruments, and taxation led to the emergence of sophisticated forms of financial planning. Despite the fact that financial planning has grown increasingly complicated, it has not got the academic attention it merits. Financial

Planning has been evenly discussed throughout but planning pertinent to retirement is limited and scattered. The literature that is now available is disjointed, largely subjective, and of a constrained scope. The information and results from prior investigations are not thoroughly arranged or systematically summarised for retirement financial planning. And reviewing this exhaustive literature of over 9000 words is an uphill task for reviewing the past research. This study examines the present state of research on retirement financial planning for everyone in an effort to bridge this research gap. This will increase the body of existing knowledge. Given the growing importance of financial retirement planning as a tool to promote individual citizens' accountability in the creation of their own retirement strategy, the findings are particularly significant for the financial community or for everyone who wants to live comfortably into old life. Increasing life expectancies and the end of traditional pension plans necessitate personal retirement savings. By investing wisely and starting early, individuals can benefit from the power of compounding and grow their savings over time. Adequate retirement investment helps individuals achieve financial security, independence, and peace of mind, allowing them to enjoy their retirement years without financial stress.

This study's objective is to assess the state of the literature on retirement financial planning as it stands right now. In order to condense a significant amount of data into a manageable, transparent, and reproducible manner, a thorough literature study is necessary (Denyer & Tranfield, 2006). In order to investigate a sample of 9397 research conducted over the

course of more than six decades, bibliometric analysis has been used. The goal of bibliometric analysis is to give quantitative knowledge on the constantly changing topic of financial planning for retirement using a strict methodology. The study identifies a vacuum in the corpus of existing research, which may point the way forward and create opportunities for more study in the field of retirement financial planning. The philosophical, intellectual, and social structure of the disjointed work is analysed using bibliometric analytic tools to pinpoint key themes (Mougenot & Doussoulin, 2022). The study's main contribution is the collection of the scattered body of literature in the area and the identification of significant work, authors, and sources. With evidence-based guidance, individuals can navigate complexities, make optimal investment choices, and effectively manage risks, ensuring a comfortable and fulfilling retirement based on reliable and proven strategies. Since Providing enough retirement incomes for an ageing population is a concern for the government in many nations, so is the need of the study.

RESEARCH QUESTIONS

The following research issues are addressed by the bibliometric study:

1. What is the impact of research in Retirement Investment ?
2. Which publications and authors have the most sway in the field of investment planning and retirement ?
3. What are the related research topics in the area of Retirement Investment ?
4. Over the years how investment planning has gained relevance ?

RESEARCH OBJECTIVES

The research goals for the current paper are derived from the below mentioned research objectives:

1. To evaluate the productivity and impact of research in the field of retirement investment planning by analysing publication counts and citation counts.
2. To identify the top-cited research sources and authors in the field of retirement, investment planning, indicating the most influential and impactful research contributions.
3. To map the intellectual structure of research in retirement investment planning and identify clusters of related research topics and the interrelationships between them.
4. To identify emerging research trends and areas of growth in retirement investment planning and provide the insights into current gaps and future research directions.

The study identifies a vacuum in the corpus of existing research, which can point the way forward and create opportunities for more enriched study in the field of retirement financial planning. The philosophical, intellectual, and social structure of the disjointed work is analysed using bibliometric analytic tools to pinpoint the key themes (Mougenot & Doussoulin, 2022). The main contribution of the study is the collection of the scattered body of literature in the area and the identification of significant areas. Bibliometric studies provide evidence-based insights that can inform science and innovation policies.

RESEARCH METHODOLOGY

The research methodology for the study involves the following steps:

Identification of Research Databases: The available databases of web of Science, Google scholars, Pubmed, Scopus etc. are there, but in this study, the reliable source of Scopus having a wide range of discipline journals has been taken into use.

Search Strategy: For developing a comprehensive search strategy and to retrieve relevant literature, network analysis and descriptive analysis are used. In the indexed database of Scopus, the terms “Invest*” or “Financial Planning” or “Planning” and “Retire*” or “Pension” were searched as part of the current bibliometric evaluation of the literature (Biancone, Saiti, Petricean, & Chmet, 2020). Thereafter a refining strategy by limiting the subject areas of Sociology, Economics, Business, Psychology, Arts and Multidisciplinary and language to only English has been the search strategy to ensure a focused and relevant dataset.

Data Collection: After execution of the search strategy in the selected databases and collect the identified literature. It has been ensured that the inclusion criteria are met only by research papers.

Data Extraction: Extraction of CSV file with relevant bibliographic information from the collected literature has been executed. This included publication title, authors, publication year, journal/conference name, abstracts, keywords, and citation counts. All this bibliometric data had been organised in a structured format for further analysis.

Data Analysis: Conducting quantitative analysis on the extracted data using bibliometric techniques in R studio software using

Bibliometrix programme and Biblioshiny package. This involved:

1. **Descriptive Analysis:** Calculating the publication counts, citation counts, and other basic statistics to assess research productivity in the field of Retirement Investment.
2. **Citation Analysis:** Identification of highly cited publications and writers in the subject
3. **Visualisation:** Utilisation of bibliometric visualisation techniques, such as network visualisation were used to identify the research clusters, trends, and interconnections between topics within Retirement Investment.

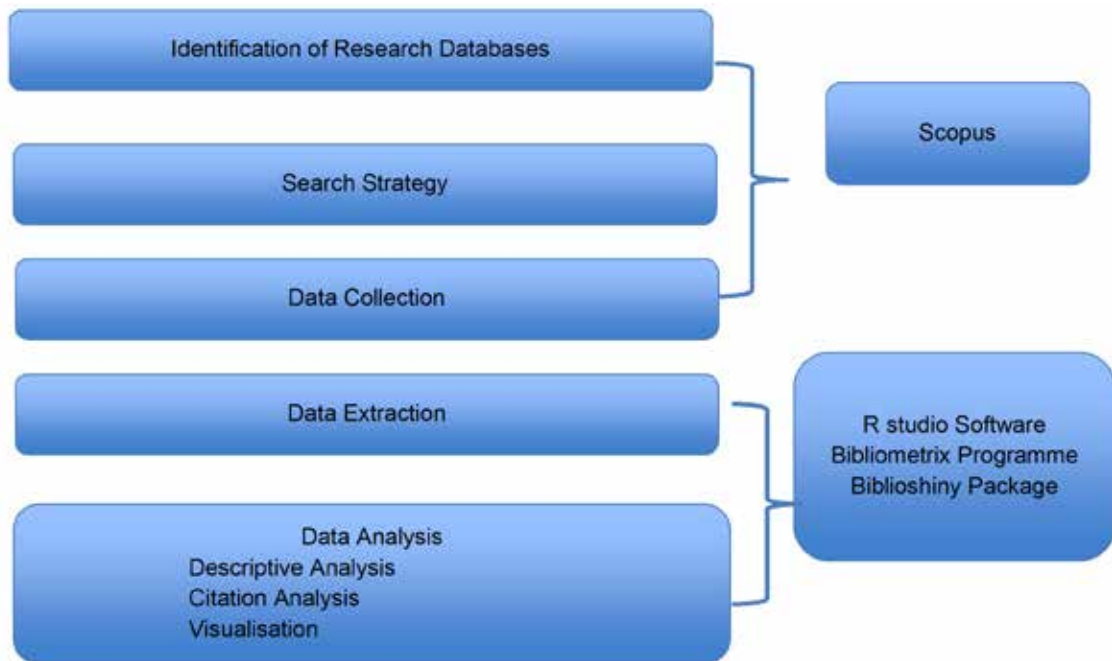


Figure 1 : Research Methodology Framework

This study disentangles the conceptual and intellectual framework of the research on financial planning in the various stages of retirement through bibliometric analysis, which also assesses the most recent developments.

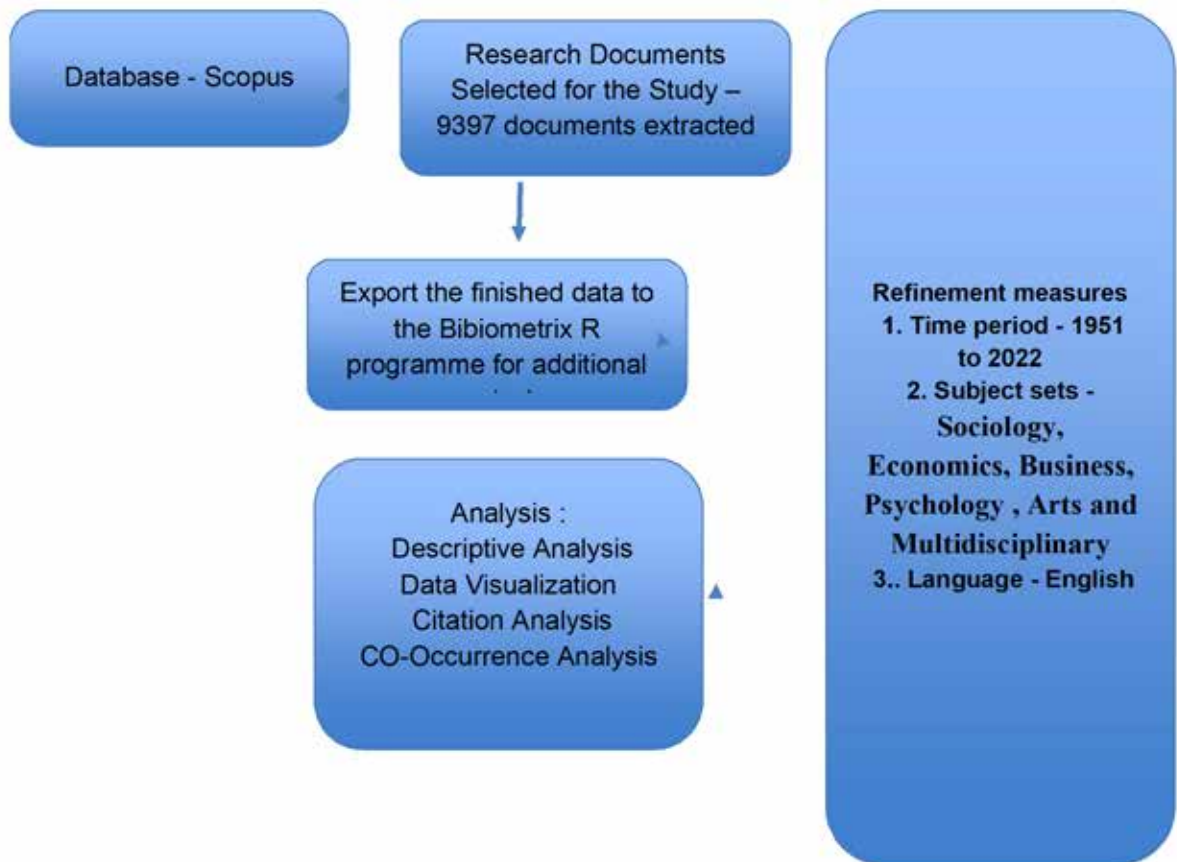


Fig 2 : Stages of Review Process of Articles

Bibliometric analysis gives researchers a strong tool to investigate a particular field of study by looking at citations, co-citations, and word frequency . Performance analysis and science mapping are the two main methodologies used by bibliometric methods to analyse a particular scientific subject using bibliographic data (K & Marrone,2020). They are widely employed to assess how a certain academic field is progressing. Data is taken from the Scopus database based on article coverage, journal classification, and compatibility with

the Bibliometrix tool from R-studio. Due to its adaptability and user-friendliness, the Bibliometrix R-package, a bibliometrics tool, was employed. For the Biblioshiny analysis, a comma separated value (CSV) file containing more than 9000 bibliographical records was employed and analysed. The bibliometric scenario in the field has been examined with the annual citations, annual scientific production, average citation per year, co-occurrence network, most frequent words, most cited authors, most relevant sources, impact,

thematic map, tree map, trend analysis with topics and word cloud (M.L.B. Chakraborty, S. Chakraborty, Ghosh, & U, 2021).

ANALYSIS

The bibliometric study analyses the literature work done so far in the domain of investment for retirement with the help of techniques like Annual Production or Production trends , Citation Network Analysis, Publication Outlets, Prolific Authors, Tree Map, Keyword Analysis , World Cloud and Co-Occurrence Network etc. The results have been reported in the later part of this paper.

Annual Publication/Production Trends

Annual publication and production trends in bibliometric studies provide valuable insights into the growth, productivity, and evolving research landscape within a specific field. They reveal the overall research output and activity levels over time, identifying periods of increased scholarly activity and emerging

research areas. These trends also help track the impact of research by highlighting influential papers and authors. These increasing trends indicate growing scholarly activity and peaks in publication reflecting periods of high productivity and research interest, while plateaus indicates stable levels of output. The annual production of literature in investment planning for retirement has grown multiple fold in the domain of investment for retirement . The annual research productions in the area of investment planning have encountered a rapid surge in the last two decades only . The number of productions increased approximately six times from 104 in 2000 to 618 in 2020 . This signifies the growing concern of society in retirement planning and investment planning in whole . With growing old age production , every state is shifting focus on the pension structure of the old population in a more secure form . In the next decades a rapid revolutionary change can be expected in pension and old age financial security policies.

Table 1: Annual Production of 20 Years.

Year	Number of Production(Annual)
2000	104
2001	100
2002	128
2003	137
2004	210
2005	211
2006	270
2007	256
2008	263

2009	339
2010	364
2011	434
2012	386
2013	424
2014	462
2015	477
2016	482
2017	521
2018	553
2019	568
2020	618

Citation Network Analysis

Citation analysis in bibliometric study provides valuable insights into the influence and impact of scholarly works. It involves examining the citations received by articles, authors, or journals to understand their visibility and importance within the academic community. Citation analysis helps identify highly cited papers and authors, indicating influential research contributions. Citation analysis aids scholars in gathering pertinent material and locating significant prior work in a given field. Researchers can easily determine the significance and relevance of a certain publication, by looking at the number of citations (Zupic & Cater, 2015). As a result, the quantity of citations and the relevant quality of a certain study are directly related. The Scopus Mean Total Citation Per Article and Mean Total Citation Per Year are where the citation information for this study was made available. To identify the most important

publications we created one citation metric with Mean Total citations respectively per Article and per Year and also two graphical representations of Annual Citations of Research Article and Average Citation Per Year.

The following are the requirements for developing metrics:

1. Mean Total Citations Per Article : The average number of citations per article is determined by adding up all the times of domain's writings that have been referenced in other writings, dividing that amount by the total number of articles the author has produced.
2. Mean Total Citations Per Year : By dividing the total number of citations by the total number of citable years, the average number of citations per year is determined.
3. Annual Citations of Research Article : Research produced and cited annually reveals the relevance of retirement planning with surging time .

4. Average Citation Per Year : By dividing the total number of citations by the number of years the research topic has been publishing papers, the average number of citations per

year can be derived. This was a very helpful statistic to evaluate the annual impact for retirement investment planning.

Table 2 : Annual Total Citations Per Year.

Year	N	MeanTCperArt	MeanTCperYear	Citable Years
1951	2	3.00	0.04	71
1956	0	0.00	0.00	0
1961	1	0.00	0.00	61
1966	3	3.00	0.05	56
1971	0	0.00	0.00	0
1976	4	53.00	1.15	46
1981	19	13.42	0.33	41
1986	29	19.52	0.54	36
1991	35	15.77	0.51	31
1996	69	32.09	1.23	26
2001	100	58.12	2.77	21
2006	270	21.37	1.34	16
2011	434	16.92	1.54	11
2016	482	11.66	1.94	6
2021	697	1.63	1.63	1

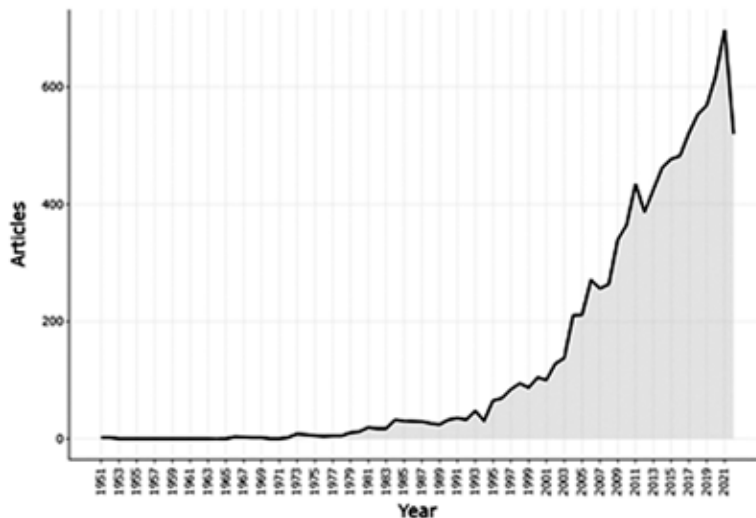


Figure 3: Annual Citations of Research Article till 2021

Prior to 1976, research growth was quite slow, but following thereafter, publications grew rapidly. The largest number of publications (697) was recorded in the year 2021, whereas the years 1956 and 1976 evidenced no publications at all. In comparison to 100 publications with 21 citable years, the highest mean of total citation per article was observed in 2011 at 58.12, while the lowest was recorded in 1956. The lowest mean of citation per year is 0 and was recorded in 1956 and 1976, respectively whereas the highest mean of citation per year (1.94) was reported in 2016(Check Table 2).

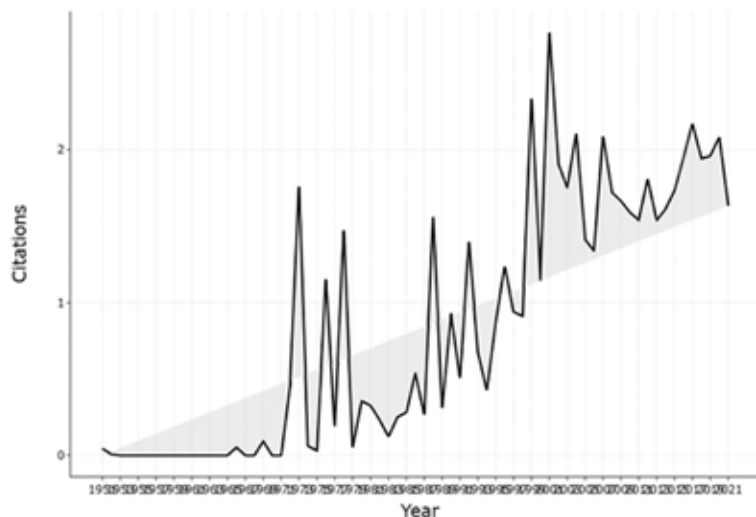


Figure 4: Average Citation Per Year

The tabular data of average citation per year is presented in a positive upward graphical manner with multiple growth in the annual citation average . Till 1976 the graph appeared flat with no or minimal annual production in investment planning for retirement. But afterwards a frequent movement is reflected in the curve depicting a change in research contribution with an increasing rate signifying the relevance of retirement planning now.

Publication Outlets

Table 3: Most Relevant Sources.

Sources	Articles
Journal of pension economics and finance	155
Insurance: mathematics and economics	130
Journals of gerontology - series b psychological sciences and social sciences	117
Plos one	97
Journal of financial counseling and planning	96
Ageing and society	90
Social science and medicine	72
Research on aging	60
Educational gerontology	58
Journal of public economics	55

By examining the publication outlets, such as journals or conferences, researchers can assess the visibility and dissemination of research within the academic community .The most relevant journal in the area of investment planning for retirement is Journal of Pension Economics and Finance with 156 articles , followed by Insurance : Mathematica and Economics with 130 articles and Journal of Gerontology- Series B Psychological Sciences and Social Sciences with 117 articles in the area of investment planning for retirement .The table depicts the most Significant Journals which contribute the highest articles so published in the mentioned Journal . By examining the publication outlets, such as journals or conferences, researchers can assess the visibility and dissemination of research within the academic community.

Prolific Authors and Affiliated Institutions Citations

Table 4: Top 10 Authors

Author	Production(Document)	Citation
Olivia S. Mitchell	58	3128

Hazel Bateman	22	185
Susan Thorp	20	166
Ellenor Mittendorfer-Rutz	15	148
Boo Johansson	11	138
Raimond Maurer	18	169
Kristina Alexanderson	18	368
Graham Henning	9	71
Sami Ur Rahman	10	162
Zhuming chen	13	146

Prolific authors and affiliated institutions' citations in bibliometric analysis provided important insights into their research influence and impact. By examining the number of citations received by authors and institutions, researchers can identify influential contributors in the field. Prolific authors with a high number of citations indicate the significance of their research and their influence on subsequent studies. The Investment planning research area with reference to retirement has been majorly contributed by Olivia S. Mitchell followed by other prominent authors like Hazel Bateman, Susan Thorp, Ellenor Mittendorfer-Rutz, Boo Johansson, Raimond Maurer, Kristina Alexanderson, Graham Henning, Sami Ur Rahman and Zhuming chen. The maximum production of 58 with citations as high as 3128 was given by most relevant author Olivia S. Mitchell. The research examines the economics and finance of defined contribution pensions, financial literacy, wealth accumulation, Social Security and behaviour, longevity risk and financial crises, work patterns over the life cycle. Her work has been featured in publications like The Economist, The New York Times, and The Wall Street Journal as well as in prestigious academic journals like the American Economic Review, the Journal of Political Economy, the Journal of Public Economics, and the Review of Finance. Following next is Hazel Bateman with 22 research productions and citations of 185. Research growth was generally moderated before 1976, while publishing growth gained momentum afterwards. Other Important authors that have significant contributions with a large number of citations depicting relevance of financial planning for retirement. The most important with respect to highest citations has been depicted in Table No. 5. The future researchers can initiate their study with the following pivotal research papers in the field of Retirement Investment.

Table 5: Most Cited Work.

Title of Research	Research Objective
“Save more tomorrow: Using behavioral economics to increase employee saving”	Examining the companies from defined-benefit to defined-contribution plans
“The making of investor subjects in Anglo-American pensions”	Review of the concept of an individualization of responsibility and risk in US and UK pensions

“Quality of work, well-being, and intended early retirement of older employees - Baseline results from the Share Study”	Issues with a high percentage of elderly workers who take early retirement
“Gender differences in risk aversion and expected retirement benefits”	Impact of gender on the superannuation retirement fund risk preferences
“Understanding pensions: Cognitive function, numerical ability and retirement saving”	Assessing the relationship between these skills and different results for wealth and retirement savings.

Keywords Analysis

An analysis of the frequency of the keywords used in the articles showed that the term “retirement” appeared 1709 times, followed by “pension”, “financial”, “investment”, “social”, “health”, “study”, “planning”, “funds”, “evidence”, “life”, “risk”, “fund”, “analysis”, “impact”, “plans”, “role”, “market”, “management”, “age”, “pensions”, “public”, “adults”, “effects”, “performance”. As a visual depiction of word frequency in the study, the word cloud in Figure 5 used word size as a signal. It stood in for the literary import of a term and frequencies have skyrocketed since the advent of the twenty-first century as depicted in Table 6. According to the word cloud, this research has looked at a number of prerequisites for investment planning, such as social security and planning. The majority of the previous studies discussed how financial planning affects choices made in relation to investing, retirement, and pension significantly.



Figure 5 : Word Cloud

Table 6: Most Frequent 25 Words.

Words	Occurrences
Retirement	1709
Pension	1578
Financial	691
Investment	636
Social	538
Health	510
Study	488
Planning	486
Funds	477
Evidence	475
Life	431
Risk	411
Fund	331
Analysis	291
Impact	286
Plans	277
Role	276
Market	270
Management	263
Age	262
Pensions	254
Public	254
Adults	251
Effects	229
Performance	219

The phrases that featured the most frequently in articles of financial literacy and retirement planning are imagined as a tree map in Figure 6. The keyword “retirement” was used the most (1709 times), taking up the greatest space in the keyword tree. The word “pension,” which was used 1578 times, was followed by the words “financial”, “investment”, and “social”. The tree map shows words in

varied sizes according to how frequently they appear. Although the text is arranged rather randomly, the keywords are displayed in a big manner to stand out and attract readers' attention.

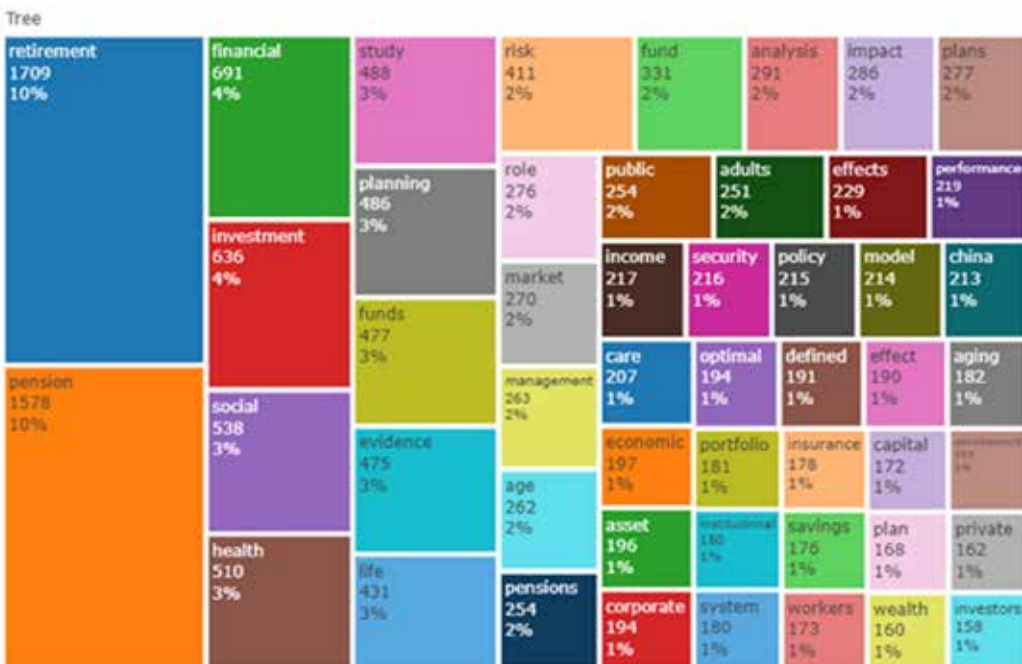


Figure 6: Tree map

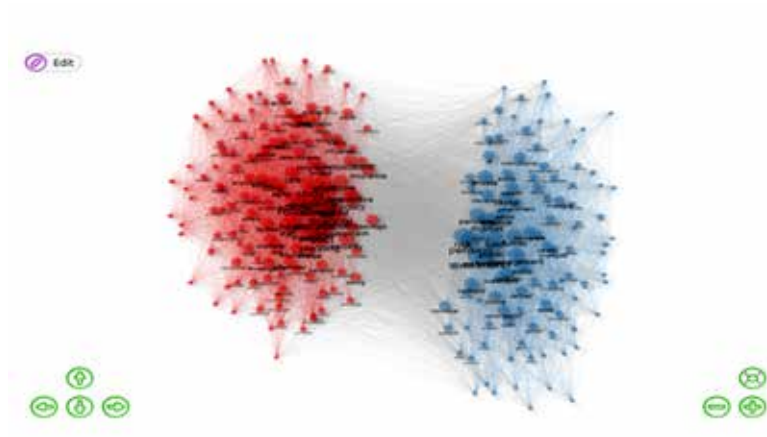


Figure 7: Co-occurrence Network

Prolific authors and affiliated institutions' citations in bibliometric analysis provided important insights into their research influence and impact. By examining the number of citations received by authors and institutions, researchers can identify influential contributors within a specific field. Prolific authors with a high number of citations indicate the significance of their research and their influence on subsequent studies. Interpreting co-occurrence network results in bibliometric analysis involves analysing the interrelationships between research topics or keywords. It included identifying clusters of related topics, understanding the strength of associations, and visualising the knowledge landscape. By interpreting co-occurrence networks, researchers can identify major research themes, emerging areas of interest, and interdisciplinary connections. Using co-occurrence networks or co-word analysis, conceptual structure illustrates the relationships between themes, subjects, and trends (Dhontu, Kumar, Mukherjee, Pandey, & Lim, 2021) . It is the sole technique that makes use of research paper content. Thus, a topic, phrase, or theme

that is presented throughout the network serves as the study unit. The Bibliometrix software has created this conceptual framework for the research topic using multiple correspondence analysis (MCA). Multivariate nominal data can be analysed graphically and numerically using MCA (Warrens & Heiser, 2006) .The Louvain's clustering technique with 50 nodes were used to generate the keyword co-occurrence network shown in Figure 7 for the keyword plus unit of analysis . The default parameters for automated layout and normalisation by association were applied on the programme. They are preferred because they accurately and thoroughly capture document material (Garfield & Sher, 1993). The results revealed two clusters, which were shown in red and blue in Figure 7. Words served as the vertex, distance indicated relatedness, and the size of a node was inversely proportional to the number of nodes in the cluster. Different colours were used to indicate various groupings. Retirement takes up most of the space in the red cluster, while pension and investments are highlighted in the blue cluster.

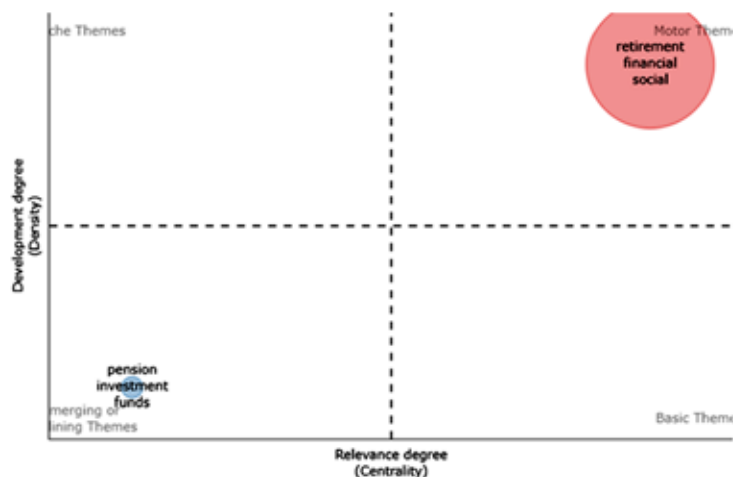


Fig 8 : Thematic Map

Thematic analysis in bibliometric analysis involves identifying and examining the thematic content of scholarly publications within a specific field. It aimed to uncover the main research themes, topics, and subtopics that emerged from the literature. Thematic analysis provided insights into the major areas of focus, research trends, and knowledge gaps within the field. It helped researchers understand the distribution and prevalence of different themes, as well as the evolution of topics over time. Thematic analysis enabled the identification of emerging areas of interest, the exploration of interdisciplinary connections, and the discovery of novel research directions. The typological motifs were plotted on a two-dimensional plot by a thematic map (J , Herrera, Herrera, & Herrera, 2011). Utilising co-word analysis, themes were developed in the research domain by locating keyword clusters. The size of a node is inversely proportional to the number of nodes in the cluster, distance between nodes denotes relatedness, and words serve as the vertex. To represent diverse categories, multiple colours were utilised. The red cluster primarily focused on retirement, whereas the blue cluster emphasised pension and investments. A bubble on the map stood in for each subject. The words “retirement,” “financial,” “social,” “pension,” “investment,” and “funds” were represented on the graph as bubbles in Figure 8 . The most frequently mentioned themes were retirement, money, and societal difficulties, and a motor theme has the most density and centrality in the top right quadrant of the diagram. But the subjects in the lower left quadrant, “pension,” “investment,” and “funds,” were less significant and underdeveloped.

CONCLUSION

The citations per annum have increased rapidly many fold from 1953 to 2021. Which represented the annual production surge depicted by a co-occurrence network of two sets of keywords .”Retirement” is the most frequently coined word out of all synonyms as explored by the researchers also evident by word cloud and topic trends. The prominent journals in this field are “Journal of Pension Economics and Finance” , “Insurance: Mathematics and Economics” and “Journals of Gerontology-Series B Psychological Sciences and Social Sciences”. One of the surprising finding was that Investment and financial planning were one of the least discussed terms with keywords of Retirement and Pension though there has been a sudden surge in exploratory research in this field since 2000s and even more added largely in the recent years of pandemic .The study will assist academic scholars, policymakers, and regulators in understanding the fundamentals of financial planning solely for pinpointing the pertinent areas that require further research for retirement.

IMPLICATIONS AND APPLICATIONS OF STUDY

1. This study enables researchers to gain a comprehensive understanding of the research landscape in the area of Retirement Investment by mapping the key topics, trends, and emerging areas within retirement investment.
2. This study assists in evaluating research productivity and impact by identifying prolific authors, institutions, and highly cited research domains.

3. It informs policymakers about the research landscape in the area of Retirement Investment, highlights areas of concern, and supports evidence-based policy formulation to enhance retirement investment options and outcomes.

DISCUSSION

The study's main contribution consists of compiling the inconsistent literature in the field and highlighting the crucial sources, authors, and documents. It promotes learning and points out under examined areas of retirement investment planning. This will encourage additional researchers in the areas of financial literacy, behavioural finance, financial planning, investor behaviour, and policy research by numerous academic groups, practitioners, and policymakers, drawing inspiration from the existing literature. The findings of the citation analysis fully support the need for the investigation into the direction that social science scholars have recently taken in this area of retirement investment. Increasing Old Age Population in growing economies seeks more research development in the field

to seek out ways to avoid the scenario of an overburdened working Population.

FUTURE RESEARCH DIRECTIONS

Limitations and Future Directions are that this study might have overlooked non-traditional or interdisciplinary research that falls outside traditional disciplinary boundaries. Furthermore, it might not adequately capture the quality or impact of research, as citation counts alone may not reflect the true influence of a publication. While Scopus is a widely used database for bibliometric analysis, there are other options available for analysing retirement investment research. This bibliometric analysis exclusively uses the Scopus databases. Data extraction from additional databases could be used in the future. It could be possible to learn more about the pertinent theories and models by carefully examining the content of papers in this area of study. Also, demographics play a crucial role in financial decisions an individual takes, that may be explored in future research works. The development in financial planning in developed countries can be compared with the developing economies with vibrant financial status.

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ANALYSING FINANCIAL PERFORMANCE OF INDIAN AUTOMOBILE SECTOR IN CONTEXT OF ACHIEVING SUSTAINABILITY

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ABSTRACT

Manufacturing sector has occupied an important role in India's Economic Development. India is globalising its product more worldwide by ensuring vocal about local products which in turns leading to more start-ups, self-production, and employment opportunities'. Self-reliant is leading India towards sustainability. Sustainability focuses on meeting the needs of the present without compromising the ability of future generations to meet their needs. In India, focus on Manufacturing sector have been increased to make India self-reliant and generate more employment opportunities. Prime Minister of India, Mr. Narendra Modi, had launched the 'Make in India' program to place India on the world map as a manufacturing hub and give global recognition to the Indian economy. The Government of India has taken several initiatives to promote a healthy environment for the growth of Manufacturing Sector in the country. The Manufacturing Sector of India has the potential to reach US\$ 1 trillion by

2025 with impetus on developing industrial corridors and smart cities; the government aims to ensure holistic development of the nation. The corridors would further assist in integrating, monitoring, and developing a conducive environment for the industrial development and will promote advance practices in Manufacturing Sector. India is an attractive hub for foreign investments in the Manufacturing Sector. Several mobile phone, luxury and automobile brands, among others, have set up or are looking to establish their manufacturing bases in the country. In today's COVID19 pandemic, there is focus of India to be self-reliant and every country is promoting its Manufacturing Sector. In this paper, financial performance and Capital structure of Automobiles sector listed on BSE 500 for last 10 years will be analysed to know the overall growth of this sector for making India self-reliant. Various parameters will be analysed in relation to ratios, trend analysis, descriptive statistics, correlation for predicting the growth of automobile sector in the last

ten years. Data will be collected from CMIE Prowess. Government initiatives to boost up the manufacturing sector will also be analysed. This paper will help Government, Policy Makers, Industrialist, and the Economist to find more paved ways of economic development through automobile manufacturing sector.

Keywords: Sustainability, Start-Ups, Financial Performance, Capital Structure, Manufacturing Sector, Make in India, Automobile Sector

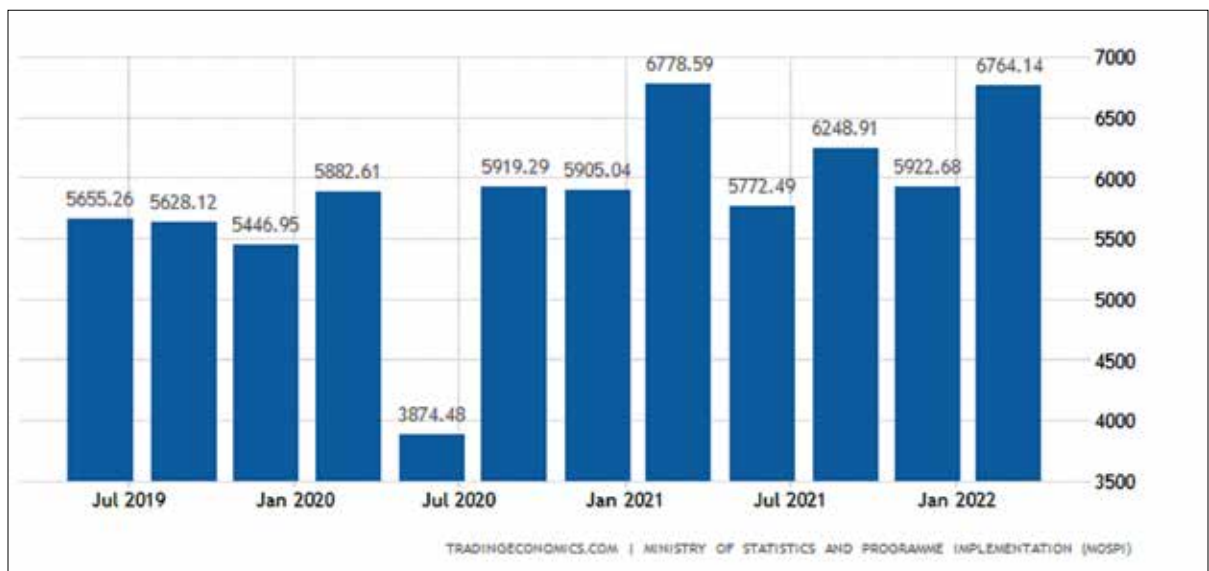
INTRODUCTION

With the help of Manufacturing Sector Firms, sustainability and high economic growth of nations took place. In today's global scenario, manufacturing is an essential step not only towards self-reliance, but a road to national development and economic empowerment. So, the company should plan according to the changing situations its capital structure in such a way to get maximum returns and proper utilization of funds. Leverage ratio affects the cost of capital. Financial leverage is expressed as ratio of debt and equity that explains relationship between borrowed funds and owners fund in the firm's capital structure. Firms having only equity are called unlevered firms whereas firms having both debt and equity capital are called Levered Firms. Different forms of capital structure can be chosen by company to maximize overall market value of shares. There are many theories in corporate finance related to Capital structure. Different capital structure theories have been examined and tested from time to time to analyses the relationship between leverage and other firm features. Modigliani and Miller (1958) put

forward first "Capital Structure Irrelevance" theory in which the market value of firm was not affected by financial leverage. Increase in debt does not affect capital without taxes. When taxes are taken in to consideration, interest on debt will be deducted from tax known as tax shields which ultimately reduce debt cost and ultimately increases the performance of firm. An extension of MM theory can be seen in the form of Trade-off theory. It focuses on attaining optimal capital structure by maintaining an equilibrium between the benefit of debt in the form of tax saving and the distress debt cost or with current financial inflexibility. According to pecking order theory of Myers (1984) the firm has two main internal and external sources of finance. Firms first preference is to use internal financing and if it is not available or insufficient in amount, only then it uses its sources of funding through external sources. With a view to minimize cost, the sequence or the priority of using sources of funding is firstly retained earnings or liquid assets, then debt and finally equity to meet their fund needs. According to agency cost theory given in 1976 by Jensen and Meckling, agents might not always act for the benefit of principal leading to conflict between principals and decision makers such as board of directors, managers, agents in business and losses to principals. Agency cost includes bonding expenditures, residual loss of the agent, and all principal's expenditure related to monitoring. The main conflict that shareholder face is that the managers do not invest the free cash flow in unprofitable projects. Debt acceptability is different in different industries due to the different features of industries.



Source: (IBEF Reports)



Source: Ministry of Statistics and Programme Implementation (MOSPI)

GDP From Manufacturing in India increased to 6764.14 INR Billion in the first quarter of 2022 from 5922.68 INR Billion in the fourth quarter of 2021.

REVIEW OF LITERATURE

Robert et.al (2020) examined the effect of Equity and debt financing on the firm's financial performance. All the firms taken under study were listed on Nairobi securities

exchange. The study found that short term debt had significant & negative affect on financial performance whereas long term debt had positive & significant effect on financial performance. Panel data, regression was used for the year 2008-13.

Vu et.al (2020) studied the influence of different factors affecting capital structure from 2014-16 through correlation and regression. The study was undertaken on 59 companies that were exclusively listed on Vietnam stock exchange and the construction companies were taken under study. It was found that factors such as asset size, debt equity, number of years of operation do not affect ROA & ROE. The long-term debt to total equity ratio had adverse effect on return on asset. The same negative impact on ROA was found between total debt to total equity ratio, where as positive impact of return on equity was found on debt equity.

Das and Swain (2018) conducted study to know different capital structure determinants and to measure the financial performance of 50 manufacturing firms for 10 years due to impact of capital structure. The results depicted that there was significant relationship between capital structure variables and Return on Asset, Return on Capital Employed, Return on Equity and none relationship found between capital structure variables and earning per share. Descriptive Statistics, Regression Analysis, Annova is used under study.

Sofat and Singh (2017) study conducted from (2002-12) shows that variables like asset & risk were firmly related to debt ratio while variables like debt service capacity and firm size were adversely affected in relation to debt ratio. The objective of the study was to investigate important determinants of capital structure of top 100 Manufacturing firms that were listed in BSE in India

Chadha and Sharma (2015) analysed capital structure impact from 2003-13 on 422 listed manufacturing sector firm's financial

performance that were traded on BSE using panel data regression model. Findings showed that observed firm's financial parameters of Tobin's Q and Return on Asset were not affected by financial leverage. Moreover, financial leverage was negatively correlated with ROE. There was negative affect of recession on financial performance of Indian Manufacturing sector that were taken under study.

Das (2010) studied the changing structure and performance of registered manufacturing sector in India in two periods. First one is pre-reform period from 1980-1990 and the other is post-reform period from 1991-2004. The findings of the study showed that there had been industrial slowdown in post-reform period (2000-2004) and the performance of manufacturing sector was best during (1991-2000). Trend growth rates, Regression and Structural ratios were used for analysis.

SIGNIFICANCE OF STUDY AND RESEARCH GAP

The concern of business owners and managers nowadays is to devise a strategy which helps in maintaining financial position as well as to increase profitability and shareholder's wealth. Manufacturing Sector has seen as one of the high and among most prominent growing sectors in India. Mr. Narendra Modi, (Prime Minister of India) also give importance to manufacturing sector by launching program "Make in India" which will make India Economy a manufacturing hub in the world. A lot of effort is done by government in the manufacturing sector to achieve a suitable and promoting environment for growth and expansion of Automobile sector in

Indian economy. Nowadays, there is focus of India to be self-reliant and every country is promoting its Manufacturing Sector. The literature on capital structure shows that as compared to developed economies, there were few studies done in developing economies on Automobile sector. Moreover, the studies which are done in India are limited to some Automobile Sector Firms that were either listed or unlisted in stock exchange. Automobile Sector is the most promising sector in future for economic development of India. Most of the Manufacturing Sector Firms remains untouched in existing literature and the results of studies were not same in many cases under study.

OBJECTIVES

1. To study the growth pattern of Automobile sector.
2. To explain the relationship between Profitability and the determinants of capital structure in the Automobile Sector firms.

RESEARCH METHODOLOGY

9 Manufacturing sector firms have been selected. Under that 261, firms have been selected for the sample. Secondary data related to financial performances of these companies has been collected from CMIE Prowess. CMIE Prowess data of these companies have been extracted from library. The top BSE 500 companies have been taken and from that too only manufacturing sector have been taken into consideration. Hence, the total 261 manufacturing sector BSE 500 listed companies have been selected for the data

under study. Out of that Automobile Sector 28 companies have been studied.

Data Collection Methods: The secondary sources including online publications in Emerald, Google scholar, JSTOR, Shod Ganga and other online database have been used. Various secondary sources like books, newspapers, Magazines, Journals, Government reports. The libraries of various institutes and universities like Delhi University, JNU University, NIFPF library, Bhagat Phool Singh women university library etc.

Period of the Study: In order to examine the Capital structure impact on financial Performance of Automobile Sector, the study has been conducted for the period of 10 years i.e. March 2013 to March 2022. This period of 10 years has been selected to know the latest trend of Automobile sector firms' performance

Variables under Study: Return on Asset is taken as measure of profitability. Size, Growth, Tangibility, Profitability, and Interest Coverage Ratio are taken as determinants of capital structure. The relationship have been examined between ROA and Independent variables Size, Growth, Tangibility, Profitability, and Interest Coverage Ratio.

DATA ANALYSIS AND INTERPRETATION

Total Manufacturing firms available on CMIE prowess and from those selecting BSE 500 Manufacturing firms. Among the above BSE 500 manufacturing Sector Firms, Transport Sector 28 companies have been selected under study.

Table1: (Source: Compiled by author from CMIE PROWESS).

	Manufacturing Sector Industry	Total Manufacturing firms	Manufacturing firms listed on BSE 500
1	Food & Agro Based Products	2715	24
2	Textiles	1859	11
3	Chemicals & Chemical Products	3135	93
4	Consumer Goods	1040	24
5	Construction Material	718	23
6	Metals & Metal Products	2200	21
7	Machinery	2250	27
8	Transport Equipment	1174	28
9	Miscellaneous Manufacturing	2427	4
10	Diversified	125	6
	Total	17,643	261

To test the defined hypothesis, various statistical techniques have been used. In order to analyse and interpret the data along with findings, following statistical methods have been used in the research. Descriptive Statistics (Mean, Median, Frequency, Percentage, standard deviation, maximum, minimum, coefficient of variation), Correlation, Regression etc.

DESCRIPTIVE STATISTICS

Table2: (Output Computed by researcher from SPSS).

	Mean	Std. Deviation	N
RETURN ON ASSETS	8.7483	6.59999	280
SIZE	12336.0943	16125.56754	280
TANGIBILITY	.5651	.17427	280
PROFITABILITY	.1702	.08242	280
LIQUIDITY	1.3710	.70311	280
INTEREST COVERAGE RATIO	173.4100	746.50663	280

Interpretation: Descriptive statistics of all variables have been computed. The mean of ROA is 8.4 and standard deviation is 6.5. The mean of independent variable tangibility is .56 and standard deviation is .17. The mean of liquidity is 1.4 and standard deviation is .70. The mean of profitability is .17 and standard deviation is .82. The mean of ICR is 173.4 and standard deviation is 746. The mean of size is 12336 and standard deviation is 16125.

Table 3: (Output Computed by researcher from SPSS).

Pearson correlation	Roa	Size	Tangibility	Profitability	Liquidity	Interest coverage ratio
ROA	1	-.118	-.106	.882	.337	.339
SIZE	-.118	1	.287	-.133	-.219	-.009
TANGIBILITY	-.106	.287	1	.011	-.495	-.063
PROFITABILITY	.882	-.133	-.011	1	.259	.279
LIQUIDITY	.337	-.219	-.495	.259	1	.313
INTEREST COVERAGE RATIO	.339	-.009	-.063	.278	.313	1

Interpretation: Coefficient correlation shows that No Independent variable is highly correlated with Dependent Variable that is Return on Assets.

ANOVA

Table 4: (Output Computed by researcher from SPSS).

MODEL	SUM OF SQUARES	DF	MEAN SQUARE	F	SIG
REGRESSION	9746.634	5	1949.327	221.940	.000b
RESIDUAL	2406.578	274	8.783		
TOTAL	12153.213	279			

a. Dependent Variable: Return on Assets

b. Predictors: (Constant), Interest Coverage Ratio, Size, tangibility, Profitability, liquidity.

Interpretation: As P value is less than 0.05, which shows that overall model is fit and data is significantly predicting our model.

MODEL SUMMARY

Table 5: (Output Computed by researcher from SPSS).

Model	R	R SQUARE	Adjusted R Square	Std. Error of the Estimate
1	.896	.802	.798	2.96364

a. Predictors: (Constant), Interest Coverage Ratio, Size, tangibility, Profitability, Liquidity.

Interpretation: Adjusted R² shows that 80% of variation in Return on Assets is reflected by ICR, Size, tangibility, Profitability, and liquidity.

COEFFICIENTS

Table 6: (Output Computed by researcher from SPSS).

Model	Unstandardized Coefficients		Standard Coefficients			Collinearity statistics	
	B	Std. Error	Beta	t	Sig.	tolerance	VIF
1. Constant	-1.793	.977		-1.834	.068		
Size	1.411E.5	.000	.034	1.212	.227	.892	1.121
Tangibility	-3.595	1.223	-.095	-2.940	.004	.693	1.442
Profitability	68.230	2.327	.852	29.320	.000	.856	1.169
Liquidity	.484	.317	.052	1.528	.128	.635	1.575
ICR	.001	.000	.080	2.745	.006	.851	1.175

a. Dependent Variable: Return on Assets

Interpretation: As P value is less than 0.05 in every variable except the liquidity. Thus, Liquidity is not impacting on ROA, so this hypothesis is rejected

INTERPRETATIONS

1. Coefficient correlation shows that No Independent variable is highly correlated with Dependent Variable that is Return on Assets.
2. Anova table shows that overall model is fit. As P value is less than 0.05, which shows that overall model is fit and data is significantly predicting our model.
3. Adjusted R2 shows that 80% of variation in Return on Assets is reflected by ICR, Size, tangibility, Profitability, and liquidity.
4. As P value is less than 0.05 in every variable except the liquidity. So, Liquidity is not impacting on ROA, so this hypothesis is rejected, other Independent Variables Size, Interest Coverage Ratio, tangibility and profitability are impacting the ROA.

CONCLUSION

Thus, Automobile sector is showing promising returns in future. The Government of India has taken several initiatives to promote a healthy environment for the growth of Manufacturing Sector in the country. From above SPSS data analysis, our model is fit. It has been depicted from Adjusted R2 that 80% of variation in Return on Assets is reflected by ICR, Size,

tangibility, Profitability, and liquidity. Liquidity is not impacting on ROA, so this hypothesis is rejected. Rest all independent variables like Size, Interest Coverage Ratio, tangibility, and profitability are impacting our dependent variable Return on Asset. The Government of India has taken several initiatives to promote a healthy environment for the growth of Manufacturing Sector in the country to achieve sustainability. The Manufacturing Sector of

India has the potential to reach US\$ 1 trillion by 2025 with impetus on developing industrial corridors and smart cities; the government aims to ensure holistic development of the

nation. This paper will help Government, Policy Makers, Industrialist, and the Economist to find more paved ways of economic development considering contribution of automobile sector.

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ASSESSING THE IMPACT OF DE FACTO TRADE GLOBALIZATION AND REGULATORY QUALITY ON ECOLOGICAL FOOTPRINT. EVIDENCE FROM JAPAN

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ABSTRACT

Japan is one of the developed nations in the Asian continent and holds enormous geographical and geopolitical importance in the cross-border movement of goods, services, people, and technology. Hence, it is substantial to analyse the impact of its de facto trade globalization and regulatory quality on ecological sustainability. Therefore, the study employs the autoregressive distributed lag (ARDL) model. Our results confirm that de facto trade globalization and regulatory quality have a positive impact on environmental sustainability, whereas economic growth has a negative impact on the sustainability of the ecology. The results validate that PHEH holds in Japan which means that it promotes environmentally safe trade and technology and its regulatory framework is firm enough in promoting clean trade. The relative decoupling situation is tantamount to an environmentally conscious society with rising economic performance.

Keywords: trade globalization, regulatory quality, ecological footprint, PHEH.

INTRODUCTION

The most crucial issue that mankind is currently facing is environmental sustainability due to its major global impacts (Muhammad & Khan, 2021). Global warming and climate change are the grave environmental threat to humanity (Khan et al., 2020; Naseem et al., 2022). Economic development is considered to be one of the determinants of the environmental health of a nation. In order to achieve higher economic growth, imperishable ecological development has largely been neglected (Adeleye et al., 2022). To cater to this problem, the United Nations set an agenda for achieving sustainable development by 2030 (Khan et al., 2020). It encompasses 17 sustainable development goals (SDGs), out of which, SDGs 7, 8, 13, and 15 focus on achieving rational economic and ecological evolution (Naseem et al., 2022). In spite of taking numerous steps in combating the issue all across the globe, uncommon environmental patterns state that there are still miles to go (Mehmood et al., 2021).

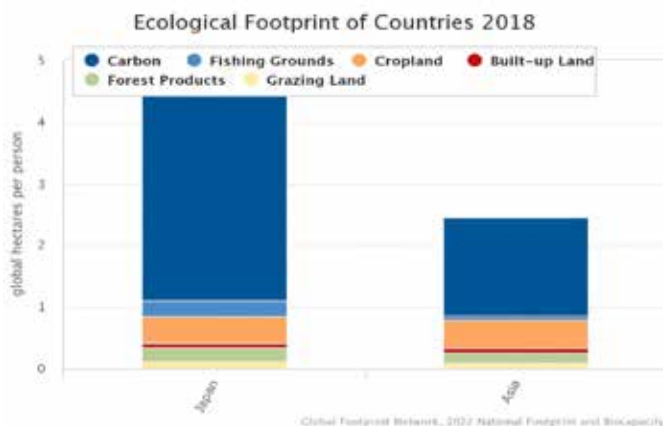


Fig. 1 The per-person ecological footprint in Japan and Asia (gha)

Source: Author's calculation based on Global Footprint Network database.

Japan is one of the developed and largest economies of the Asian region and is a part of the C6 nations which is a group of the top six CO₂ emitters (Liu et al., 2023). Figure 1 shows the comparison between per-person ecological footprint (EF) in Japan and Asia in global hectares. It is quite evident from the figure that the ecological depletion caused by Japan is much higher than that done by all the Asian economies taken together. According to the Global Footprint Network, the per-person EF of Japan is about 4.61 gha versus 2.45 gha for the entire Asian continent. Fig. 2 depicts the substantial contribution of Japan to the per capita CO₂ emissions (in metric tons) in comparison to its South Asian counterparts. This underlies the fact that the brunt of the rising economic performance of Japan is borne by its environment. For maintaining its strong foot in the global market, trade globalization is a major area for policymakers of Japan.

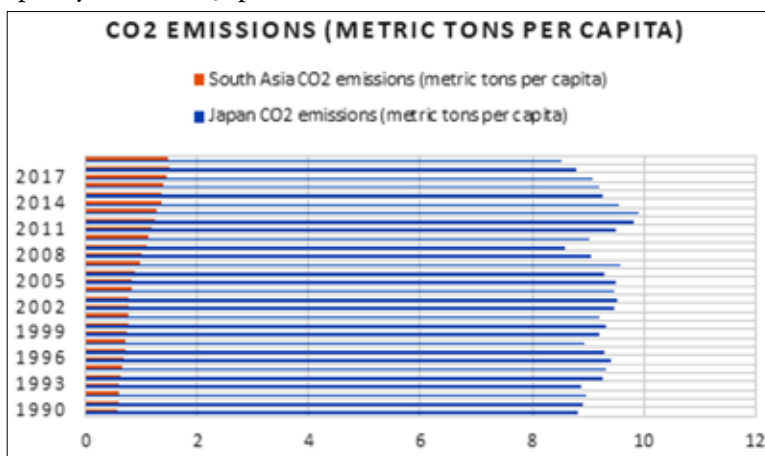


Fig. 2 CO₂ emissions (metric tons per capita) for South Asia and Japan.

Source: Author's calculation based on World Development Indicators, World Bank database

Globalization refers to the increasing interrelation of the economies across the world through the spread of trade, investment, information, and technology. The process of globalization has fast-tracked in recent times, driven by technology, trade and investment policies, and the growth of multinational corporations (Azam et al., 2022; Iqbal et al., 2023). But it has doubtful advantage in the sense that rising trade globalization with loose environmental regulations makes the nation a pollution haven for high-emitting businesses (Bekoe & Jalloh, 2023; Khochiani & Nademi, 2020). The pollution haven hypothesis (PHH) states that globalization has a negative impact on host nation's environment (Adebayo, 2022; Xie & Sun, 2020). According to PHH, to increase foreign trade and investments, environmental regulations are eased up to allow 'unhealthy' technology to enter the host nation, leading to increased emissions (Hashmi et al., 2023; Naseem et al., 2022). The counter argument states that foreign funds and trade accompany environmentally healthy technologies resulting in increased use of green energy. This environment friendly impact of globalization of the host nation is defined as Pollution halo effect hypothesis (PHEH) (Adebayo, 2022; Bandyopadhyay & Rej, 2021; Hashmi et al., 2023; Xie & Sun, 2020). With the rising trade globalization in Japan, testing the PHH and PHEH is important.

As globalization has expanded, it has led to increased development and growth of the economy in most of the parts of the world. However, it has also been accompanied by concerns about environmental degradation and regulatory quality. As per the World Bank,

regulatory quality is the government's ability to ensure development of private sector by devising sound regulations. It includes trade, business, and competition regulations (Ibrahim & Ajide, 2021). Effective regulations establishes efficient management of the waste-producing establishments, thereby furthering economic growth without creating pressure on the environment (Güngör et al., 2021).

The literature has discussed the impact on environmental degradation from the point of view of globalization (Adeleye et al., 2022; Agila et al., 2022; Rafindadi & Usman, 2019), regulatory quality (Güngör et al., 2021; Ibrahim & Ajide, 2021), and urbanization (Bekun et al., 2022; Hashmi et al., 2023; Hatmanu et al., 2022; Naseem et al., 2022). However, there is a fervent need to study the relationship between trade globalization, regulatory quality, and environmental sustainability because *de facto* trade globalization ensures economic growth on the one hand promotes green growth on the other (as postulated by PHEH) (Hongqiao et al., 2022). Also, the level of regulatory quality of a nation determines its level of trade. Therefore, exploring the complex trade-governance-ecology nexus is necessary for one of the developed economies of the Asian continent, i.e., Japan so that policy makers can devise important policies and provide a way forward for the other Asian counterparts. Hence, the present study aims to investigate the impact of these macroeconomic variables on EF of Japan. The paper discusses PHH/ PHEH in trade-governance-ecology relation. To the best of our knowledge, our study is second to none in exploring the influence of trade globalization *de facto* and regulatory quality on EF with a special focus on PHH/

PHEH in the case of the country which forms the eastern edge of Asia. We have also employed the decoupling index (DI) to disentangle EF from economic development.

Because of the geographical and geopolitical importance of Japan not only for Asia but also for the rest of the world, it is substantial to analyse the impact of its de facto trade globalization and regulatory quality on the ecological sustainability. In the pursuit of the said purpose, EF has been used to proxy environmental degradation since it captures the pressure on the environment not only from the lens of CO₂ emission but more holistically (Khan et al., 2021). According to (Rees & Wackernagel, 2008; Wackernagel & Yount, 1998), EF is the capacity of the nature to fulfil man's requirements and absorb waste that is released by various human activities. Our paper is a useful contribution to the existing body of knowledge as it analyzes the impact of trade globalization de facto and regulatory quality on EF, incorporating economic growth, and urban population growth as control variables. The study employs the autoregressive distributed lag (ARDL) model. ADF unit root test is applied for testing the stationarity in the data, while Akaike Information Criterion (AIC) is used for ascertaining the lag order. It is followed by the long run form and bounds test for testing the existence of cointegration. ARCH and LM tests are applied to test for heteroscedasticity and autocorrelation respectively. The constancy of the model has been duly checked. Our results confirms that de facto trade globalization and regulatory quality have a positive impact on the ecology, whereas economic growth has a negative impact on sustainability. The results validate

that PHEH holds in Japan which means that it promotes environmentally sustainable trade and technology and its regulatory framework is firm enough in promoting clean trade. The DI value of 0.3210 signals relative decoupling situation, which means that although EF is rising but the rate of growth of the economy is greater.

The flow of the paper is as follows. Section 2 includes the literature review; data, model specification, and methodology are discussed in the third section, followed by results and findings (section 4), and conclusion, policy recommendations, and research gaps (section 5).

LITERATURE REVIEW

There are a number of studies investigating the impact of various macroeconomic variables on environmental degradation. However, in this paper, the review is limited to the studies investigating the trade globalization- regulatory quality-environment connection.

Globalization- Environmental Depletion

The existing studies provide varied opinions on the impact of globalization on environment. (Leal et al., 2021) analysed the de facto and de jure dimensions of globalization for the period 1995 to 2017 for a panel of 58 nations and concluded that de facto economic globalization reduces CO₂ emissions in developed countries. In the case of BRICS-T nations, it was reported by (Hashmi et al., 2023) that expanding financial globalization de facto degrades the environment. For South Korea, (Agila et al., 2022) stated that trade globalization has negative impact on the load capacity factor which means that the development of trade reduces environmental quality. Parallel results

were conveyed by (Awosusi, Xulu, et al., 2022) in the case of Uruguay as trade globalization depletes the environment. However, (Ahmed & Le, 2021) confirmed the positive impact of trade on the environmental quality of ASEAN. (Pata & Yilanci, 2020) also stated similar results in the case of G7 nations for the period stretching from 1980-2015. (Sheraz et al., 2021) also found that financial development and globalization reduces degradation of the environment in G20 nations. This study was conducted from 1986-2018.

Regulatory quality- environment depletion

The literature suggests that stricter regulations determine environment sustainability. The quality of governance was found to improve the environment quality in the long-run for BRICS-T nations implying that strict policies ensures proper monitoring of dirt releasing industries (Hashmi et al., 2023). Existence a direct relationship between regulatory quality and reduction in CO₂ emissions in the case of MENA economies was reported by (Omri & Ben, 2020) for the period 1996–2014. The institutional quality of E-7 nations was found to limit ecological footprint for the period 1992-2015 (Uzar, 2021). However, opposing results were testified for BRICS nations for the period of 1996 to 2018 by (Ibrahim & Ajide, 2021).

METHODOLOGY

Data

In the pursuit of finding whether trade globalization and regulatory quality have an adverse implication on the environmental sustenance in Japan, the study uses EF to measure environmental degradation (Khan et al., 2021) (refer table 1 for variable description). We have expressed it as a function of de facto trade globalization and regulatory quality. Macroeconomic factors such as urbanization and economic development are used as control variables. Data on trade globalization de facto are extracted from KOF Globalization Index (Gygli et al., 2019). The data for regulatory quality (expressed in percentile rank), GDP per capita, and urban population growth rate are collected from the World Development Indicators, World Bank Database. Per capita GDP (constant 2015 US\$) and urban population growth rate are used to measure economic growth, and urbanization respectively. The data on EF is taken from the National Footprints Account of the Global Footprint Network. Time series data from 1990 to 2021 is used. Since the data was missing for a certain number of years for some variables, we used linear interpolation for filling the data gaps (Gygli et al., 2019; Hashmi et al., 2023).

Table 1: Variable's description.

S. No.	Variables	Measuring unit	Sources
1	Ecological footprint (EF)	Global hectares per capita	Global footprint Network 2019)
2	De facto trade globalization (Trade)	Score out of 100	KOF Globalization Index (2019)
3	Regulatory quality (Regulate)	Percentile rank	WDI-(2020)
4	Economic growth (GDP)	Per capita GDP (constant 2015 US\$)	WDI-(2020)
5	Urbanization (UBPG)	Urban population growth rate	WDI-(2020)

Source: Author's compilation. The data included for the purpose of the study stretches from 2019 to 2021 since it is the most recent data available for the variables. The year mentioned in the 'sources' column is the year in which the index was introduced/ developed but it is inclusive of the data from 1990 to 2021.

Model specification

The econometric model used in the study is as follows:

$$\text{Log(EF)} = \alpha_0 + \alpha_1 \text{Log(Trade)} + \alpha_2 \text{Log(Regulte)} + \alpha_3 \text{Log(GDP)} + \alpha_4 \text{Log(UBPG)} + \mu \quad (1)$$

where, Log(EF), Log(Trade), Log(Regulate), Log(GDP), and Log(UBPG) are the natural logs of ecological footprint, trade globalization de facto, regulatory quality, per capita GDP, and urban population growth rate respectively, μ is the error term. The logarithms of the variables have been taken to guarantee variance stability. $\alpha_1, \alpha_2, \alpha_3, \alpha_4, \alpha_5$ are the coefficients of the independent variables.

Methodology

1. Cointegration test

A cointegration test helps in ascertaining long-run relationship between the variables. ARDL Long Run Form and Bounds Test, developed by (Pesaran et al., 2001), is used for this purpose because of two important reasons. Firstly, it is an apt measure for establishing the relation of those variables that are I(0) or I(1) but not I(2), secondly it is the best estimation technique for a small sample (Awosusi, Rjoub, et al., 2022; Danish et al., 2019). The null states that there is no cointegration, i.e., $\alpha_1, \alpha_2, \alpha_3, \alpha_4$ (in eq. 1) are not equal to 0 and the alternative is that $\alpha_1, \alpha_2, \alpha_3, \alpha_4$ are equal to 0. If the F-value exceeds the upper bound, then the null is rejected (Narayan, 2005; Pesaran et al., 2001). ARDL equation of the variables is as follows (eq.2):

$$\Delta \text{LogEF}_t$$

$$= \alpha_0 + \sum_{k=1}^u \alpha_u \Delta \text{LogEF}_{t-k} + \sum_{k=0}^v \alpha_v \Delta \text{Log(Trade)}_{t-k} + \sum_{k=0}^w \alpha_w \Delta \text{Log(Regulate)}_{t-k} + \sum_{k=0}^x \alpha_x \Delta \text{Log(GDP)}_{t-k} + \sum_{k=0}^y \alpha_y \Delta \text{Log(UBPG)}_{t-k} + \mu_t \quad (2)$$

After testing for a cointegration relation, the long and short-run coefficients are estimated using error correction models (ECM). The error correction term (ECT) used in ECM measures the speed with which an endogenous variable adjusts to long-run equilibrium. The convergence of ECT(γ in eq. 3) to the long-term level is confirmed if its value is negative and statistically significant. The ECM used for the short-run dynamics is as follows (eq.3):

$$\Delta \text{LogEF}_t$$

$$= \alpha_0 + \sum_{k=1}^u \alpha_u \Delta \text{LogEF}_{t-k} + \sum_{k=0}^v \alpha_v \Delta \text{Log(Trade)}_{t-k} + \sum_{k=0}^w \alpha_w \Delta \text{Log(Regulate)}_{t-k} + \sum_{k=0}^x \alpha_x \Delta \text{Log(GDP)}_{t-k} \\ + \sum_{k=0}^y \alpha_y \Delta \text{Log(UBPG)}_{t-k} + \gamma \text{ECT}_{t-1} + \mu_t \quad (3)$$

2. Diagnostic tests

To emphasise the robustness of the model, autocorrelation and heteroscedasticity are tested using Breusch-Godfrey Serial Correlation LM and autoregressive conditional heteroskedasticity (ARCH) test respectively. The stability is confirmed using cumulative sum of recursive residuals (CUSUM) and its square (CUSUM2).

3. Decoupling index model

The decoupling index (DI) was developed by the OECD countries in 2002. Decoupling refers to the rate of growth of the environmental pressure and of a casually linked economic variable (Ruffing, 2007). It measures the ratio between the change in environmental degradation (EF) and in economic growth (GDP) at a particular period. The decoupling phenomenon is explained when the rate of growth of GDP is more significant than the growth rate of environmental depleting variable (Naseem et al., 2022). The decoupling ratio (DR) equation is mentioned below:

$$\text{DR} = \frac{(\text{EF}_t / \text{GDP}_t)}{(\text{EF}_{t-1} / \text{GDP}_{t-1})} \quad (8)$$

DR lies between $(-\infty \text{ to } 1)$; $\text{DR} < 1$ implies existence of decoupling. Subtracting from DR from one denotes DI as mentioned below:

$$\text{DI} = (1 - \text{DR}) = 1 - \frac{(\text{EF}_t / \text{GDP}_t)}{\text{EF}_{t-1} / \text{GDP}_{t-1}} \quad (9)$$

Here, $t-1$ is the initial and t is the last year of the selected time span. The interpretation of the results is as follows; $\text{DI} > \text{zero}$ (near to one) means absolute decoupling exists, i.e., falling EF (environmental depletion) with rising GDP (economic growth). It is the most desirable situation. $\text{DI} > \text{zero}$ (near to zero) means a relative decoupling situation wherein EF and GDP rise simultaneously but the rise in GDP is faster than that of EF. $\text{DI} < \text{zero}$ is a scenario of coupling or no decoupling which is an undesirable situation since it implies that both EF and GDP are increasing but the growth of EF is greater than that of GDP. For the purpose of this study, we have calculated the DI values for three periods plus the DI of the total period so as to analyze the relation between the two variables in different periods. However, the results of the total period depict the overall picture of the economy.

RESULTS AND FINDINGS

ARDL Cointegration test

1. Stationarity test

Table 2 represents the results of the ADF test conducted for testing the stationarity of the variables. All the variables (except regulatory quality) are stationary at first difference. We can now go ahead with testing the cointegration using the ARDL model.

Table 2: Augmented Dickey-Fuller (ADF) unit root test results.

Level					Interpretation
Country Variables	ADF		PP		
	Constant	Constant trend	Constant	Constant trend	
EF	-1.0458	-3.0492	-0.7579	-2.8554	-
Trade	-1.4705	-1.5467	-1.4768	-1.7247	-
Regulate	-26.7762***	-16.0426***	-19.8181***	-26.8981***	I(0)
GDP	-1.5771	-3.1543	-1.7391	-2.7512	-
UBPG	-1.0115	-1.4133	-1.0115	-1.5795	-
First Difference					
EF	-5.0465***	-4.9500***	-6.8813***	-6.7464***	I(1)
Trade	-4.1599***	-4.2136***	-3.9458***	-3.9769***	I(1)
Regulate	-138.358***	-212.649***	-75.6519***	-124.035***	I(1)
GDP	-5.7488***	-5.6612***	-8.1042***	-8.9597***	I(1)
UBPG	-4.1468***	-4.1769***	-4.0632***	-4.0449***	I(1)

Note: ***, **, * indicate significance level at 1 per cent, 5 per cent, 10 per cent respectively.

Source: Author's calculation.

2. Bounds test

As the F-statistics lie well above I(1) at 1 per cent significance level, therefore, it is inferred that the variables are cointegrated. We can now estimate the short- and long-run coefficients using ARDL model.

Table 3: The ARDL bounds test to cointegration.

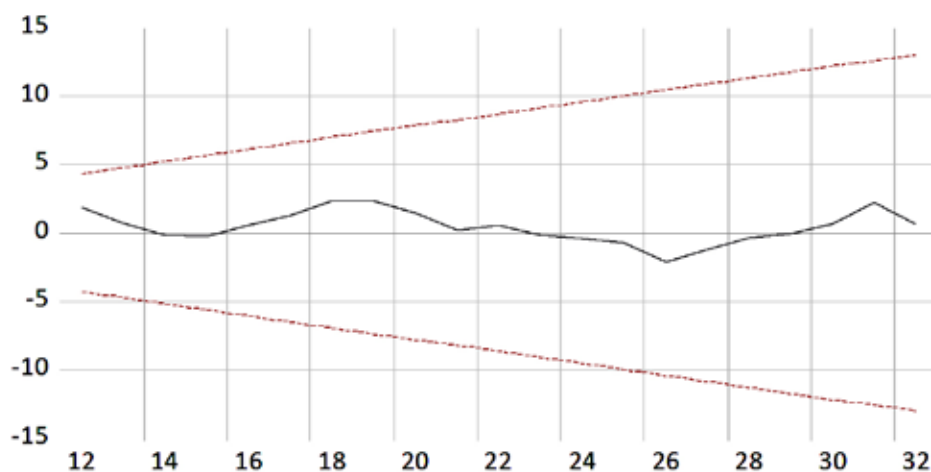
F-statistics (p value)	Level of significance	I(0)	I(1)
5.8271***	10 per cent	2.2	3.09
	5 per cent	2.56	3.49
	2.5 per cent	2.88	3.87
	1 per cent	3.29	4.37

Note: ***, **, * indicate significance level at 1 per cent, 5 per cent, 10 per cent respectively.

Source: Author's calculation

3. ARDL estimates

According to the results (table 4), de facto trade globalization reduces EF in the long-run as 1 per cent increase in $\ln\text{Trade}$ leads to 0.6922 per cent reduction in EF. This testifies the validity of PHEH in Japan and we may thus conclude that the rising trade reduces the ecological pressure since the economy promotes clean trade and technology. Our results corroborate with that of those reported by (Pata & Yilanci, 2020) for G7 nations. But (Wang et al., 2020) found an inverse relation between economic globalization and CO₂ emission for G7. Besides, with 1 per cent rise in $\ln\text{Regulate}$, statistically significant drop of 0.0373 per cent and 0.0762 per cent is observed in EF in the short- and long-run respectively. Our findings corroborate with those reported by (Güngör et al., 2021) in the case of South Africa, Pakistan (Khan & Safdar, 2022), and MENA economies (Omri & Ben, 2020) while contradictory results are reported in the case of BRICS nations (Ibrahim & Ajide, 2021). These findings imply that the regulatory framework of Japan is such that it not only attracts humongous investments due to its pro-trade and business conducive regulations but also ensures the strict abidance of the environmental laws thereby leading to rational holistic growth. It means that maintaining the institutional quality may help achieve a pro- environment outlook for Japan and reducing the footprints. Although, the economic growth of Japan has an adverse impact on the ecology. If GDP rises by a per cent, EF shoots by 0.4202 per cent in the short-run and 1.1468 per cent in the long-run. A substantial reduction in the use of fossil fuels for economic activities may help turn the situation positively. Hence, it may be inferred that the growth of the Japan's economy is coming at the cost of its eco quality. An insignificant 0.0024 per cent plunge in the short-run and an ascent of 0.0066 per cent in the long-run is observed in EF with a per cent rise in UBPG. The adjustment of the endogenous variables to the long-run equilibrium 46.43 per cent and is statistically significant as well as depicted by ECT.



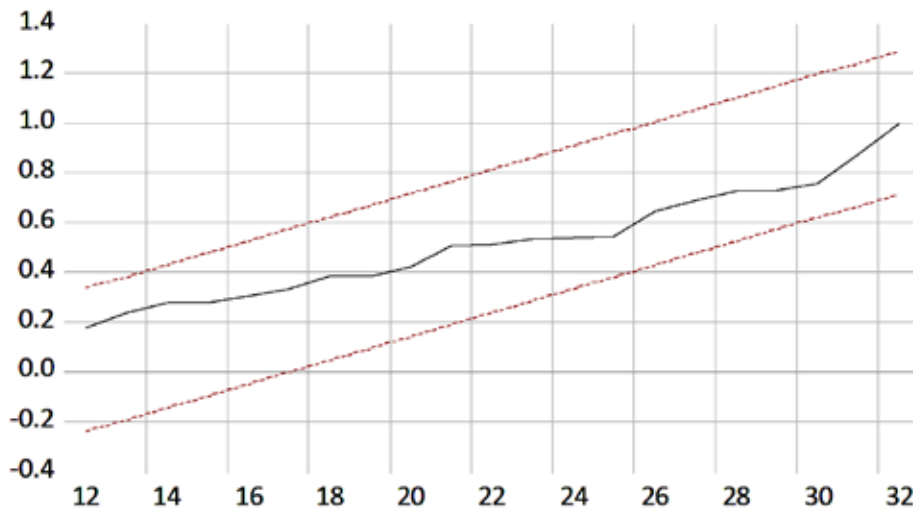


Figure 3. Stability diagnostics

Table 4: ARDL short- and long-run estimates.

Short-run estimates		
Variables	Coefficients	T-ratio
lnTrade	0.0206	0.3817
lnRegulate	-0.0373***	-6.6036
lnGDP	0.4202***	2.1443
UBPG	-0.0024	-0.6481
Long-run estimates		
lnTrade	-0.6922***	-3.3213
lnRegulate	-0.0762***	-2.2198
lnGDP	1.1468*	1.7728
UBPG	0.0066	1.0292
ECT (-1)	-0.4643***	-6.5793

Note: ***, **, * indicate significance level at 1 per cent, 5 per cent, 10 per cent respectively.

Source: Author's calculation

The absence of autocorrelation, and heteroscedasticity in the data (as per table 5) guarantees the constancy of our model. In figure 1, the stability of the estimated lines (blue) in the graphs depicts the stability of the model.

Table 5: Diagnostic tests.

Test	Prob. Chi-square	Interpretation
Serial correlation	0.3769	No serial correlation
ARCH	0.9854	No heteroscedasticity
CUSUM	-	Stable
CUSUM^2	-	Stable

Source: Author's calculation

4. Decoupling index model

The results of decoupling index (table 6) are calculated for three periods; 1990-1999, 2000-2009, 2010-2021, and the combined index from 1990-2021. According to the results, the DI values remain greater than zero but less than one for all the periods. The DI value of 0.1583 for the period of 2000-2009 is the highest in comparison to the other two tranches (excluding the total period) which affirms that the period witnessed a rising economic growth in comparison to the environmental depletion growth. This can be attributed to various environment conscious steps taken by the Japanese government post the Paris agreement on climate change like Asia Forest Partnership (2002) to facilitate sustainable forest management in Asia, the Stockholm Convention on Persistent Organic Pollutants (POPs) (2004) which instructs its signatories the duty to take measures to reduce inadvertent emissions of POPs generated in the process of waste ignition. However, the total period value of 0.3210 shows a relative decoupling situation where the rate of economic prosperity is higher than that of ecological depletion.

Table 6. Decoupling index values.

Period	DI Values
1990-1999	0.1110
2000-2009	0.1583
2010-2021	0.0937
1990-2021	0.3210

CONCLUSION, POLICY RECOMMENDATIONS, AND RESEARCH GAPS

In order to maintain economic competitiveness in the global market, de facto trade globalization and regulatory quality have become significant issues in Japan. Additionally, the Asian economy is also focusing on protecting the ecosystem

alongside continued economic prosperity. To analyse the impact of de facto trade globalization and regulatory quality on the environmental quality (measured by EF) in Japan, the study employs the autoregressive distributed lag (ARDL) model. Economic growth, measured by per capita GDP and urban population growth rate are used as control variables. Lastly, we have used DI to separate the speed of growth

of the economy and EF. To the best of the authors' limited knowledge, this happens to be the first study to reveal the trade globalization-regulatory quality-environment nexus using the above-mentioned variables and employing DI to disentangle economic growth from EF.

Our findings indicate that there exists significant inverse relationship between trade globalization *de facto* (long-run), regulatory quality (short- and long-run) and environmental degradation. This testifies the fact that PHEH holds in case of Japan, implying that stern green regulations boost 'clean' trade in the host nation. It is a major lesson for the rest of the Asian and developing economies that the trade- and environment- related policies need to be framed in concurrence with each other to deter polluting industries and foster cleaner sectors. It is also concluded that investment in clean technology helps in reducing the detrimental impact of manufacturing and trade globalization on the ecology. The positive relation between economic growth and EF shows that increasing GDP leads to an increase in EF. Therefore, sustainable production and

consumption patterns, and increased share of renewable energy in the energy mix would render the desired results of reduced EF with rising GDP. Finally, the DI values depict that the Japanese economy shows relative decoupling situation wherein the growth of GDP is higher than that of EF and therefore, the policy makers should continue to focus and invest in environmentally sustainable trade, technology and institutional quality.

Despite a few additions to the existing literature, the study has some limitations which may be pursued by the researchers in the future. Firstly, due to data unavailability, this paper is confined to 32-year period and therefore it can be extended further in future for more generalizable results. Secondly, the impact of other types of globalization, namely financial, political, social globalization (*de facto* & *de jure*) and governance quality, has not been studied at large and can be studied in future. Lastly, the established model can be applied to other group of nations like BRICS, ASEAN, G20, EU, etc. so as to get deeper insights into region specific environment sustainability.

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CONVERGENCE TO IND AS: AN INVESTIGATION OF FACTORS AFFECTING PERCEPTION OF CHARTERED ACCOUNTANTS

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ABSTRACT

In recent years, business has gotten increasingly difficult, and a globalised market requires comprehensive Accounting Standards that can be applied equally and promote fairness across corporations and regions. In the age of globalisation, India needs and wants Ind AS. With the introduction of IFRS globally, there was an urgent need to have similar standards for India as well. Therefore, Ind AS were converged with IFRS in 2011. Ind AS were made applicable in India from April 2015 voluntarily and then in a phased manner it was made mandatory from April 2016. The present study focusses on finding the factors affecting the perception of Chartered Accountants in India regarding the adoption of Ind AS. Primary data was collected on structured Likert scale questionnaire and data was analysed using Smart PLS 4. The findings of the study revealed that challenges and limitation have a negative impact on the perception while utilities, training and development of common understanding have a positive impact. Adoption process was found to be insignificant.

Keywords: Ind AS, IFRS, Utilities, Perception, Adoption Process, Challenges, Limitations, Development of Common Understanding, Training.

INTRODUCTION

The increased trend of globalisation, internationalisation of the capital market, increased cross-border listing, and the need for financial report comparability has expedited the exclusion of global variability in accounting rules and promoted the pursuit of single accounting standards. In recent years, businesses have gotten increasingly difficult, and a globalised market requires comprehensive accounting standards that can be applied equally and promote fairness across corporations and regions. In order to harmonise the accounting standards around the globe, the International Accounting Standards Board introduced International Financial Reporting Standards (IFRS) in 2001. The aim of IFRS was to enhance international comparability and improve the quality of financial reporting. India, in order to remain insulated from

changes and developments all around the world also introduced the IFRS convergent Indian Accounting Standards (Ind AS) in February 2011. Due to the actual obstacles faced by Indian regulators and corporations, the implementation was postponed until April 2015. Ind AS became mandatory on April 1, 2016, and a revised route map was presented on a voluntary basis by the Ministry of Corporate Affairs on February 16, 2015. The ICAI has published 39 accounting standards that are converged with the IFRS. The smooth adoption of new accounting standards is likely to be impacted by the perception of those who are the centre of policy making and plays a major role in implementation of these standards.

The existing studies focussed on the initial challenges and costs of adopting Ind AS in India. The studies were mostly qualitative in nature. No attempt was made to empirically study the perception of the main stakeholder i.e., Chartered Accountants regarding adoption of Ind AS. Therefore, an attempt has been made in the present study to analyse the factors that can have a bearing on the views/perception of Chartered Accountants in India regarding the convergence of Ind AS to IFRS.

The present study is divided into 6 sections viz. Introduction, Review of Literature, Research Methodology, Analysis and Interpretation, Conclusion and Implications.

REVIEW OF LITERATURE

Several studies across the world have looked for the attitude and perception of accountants towards the adoption of new reporting regime, i.e., International Financial Reporting Standards. Becki (2007) said that accounting professionals operating in the West Mediterranean region

have a favourable attitude towards TAS (Turkish Accounting Standards), but they also require training in this subject and changes to the law to ensure that TAS is compatible with their practises. Similarly, Cankaya (2007) studied the harmonisation of local accounting standards of Turkey, Russia, and China with the IFRS and found that Turkey's infrastructure and legislation made it easier to harmonise. Nonetheless, Practitioners and accountants have favourable views of TAS/IFRS in the Lakes region (Ozdemir, 2007, pp. 115-116). In Adana and Mersin, 44.8 percent of professionals had a decent level of information, only 3.4 percent knew how to apply TAS. This study also found that the most pressing issue was a poor education (48 percent). In addition, the businesses' internal structure, IT infrastructure, guidelines, laws, and audits were all found to be obstacles to the implementation of the solutions (Evci, 2008, p. 168-170). In 2007, Akdoan's study identified the technical difficulties of comprehensiveness of the criteria, application variances, and a lack of skilled staff as the main obstacles to the implementation of TAS/IFRS.

Ulku's 2008 found that experts operating in Istanbul didn't know enough about both the full set of IFRS as well as the set of IFRS for SMEs. As a response, the idea of instant and ongoing training was put forth. Navarro-Garcia and Bastida (2010) did a survey of 63 Spanish firms' accounting and financial managers, and concluded that IFRS is a highly competent legislation that is in line with decision-making procedures. Participants also believed that there are significant discrepancies between IFRS as well as Spanish Accounting Standards. Rezaee et al. (2010) also concluded that an appropriate harmonisation centred on globally accepted

accounting standards would be helpful for auditors, analysts, people who make financial statements, and people who establish standards. James (2009) stated that accounting students' knowledge of IFRS and willingness to use it are significant factors in the IFRS journey going well. The research demonstrated that the learning of IFRS knowledge is more significant than the learning of the current accounting information by the learners of accounting in this current accounting industry. Pawsey, Brown, & Chatterjee (2013) surveyed 87 US participants about the proposed implementation of IFRS and concluded that accountants supported the IFRS' comparability, simplicity, reduction in costs, comprehensive data sets, ability to improve the process of setting benchmarks, ability to serve U.S. interests, and being "robust" & "high-quality." According to Herbert et al., (2013), the shift in IFRS in Nigeria reveals that incorporating an IFRS course into the accounting curriculum is the best method of converting all Nigerian businesses to IFRS, preceded by IFRS training for staff and management. Since accounting students will be future accountants, they believe that the need to revise accounting curriculum to include IFRS is essential because their expertise or knowledge and understanding of IFRS will always be required at work. Odia J.O (2015) examined the perception of the practising accountants and accounting lecturers on the implementation of IFRS in Nigeria. The paper came to the conclusion that adopting IFRS would be good and have a big effect on accounting education as well as the quality of FR in Nigeria. As a result, it is suggested that a joint effort be made by academia, the accounting professional, industry, and the govt. in order to successfully integrate IFRS in Nigeria.

Jain (2011) investigated the issues that stakeholders, regulators, accountants, and enterprises faced during the introduction of the IFRS and proposed solutions to such issues. In a paper titled "Challenges and Prospects of IFRS in Indian Accounting Systems", Achalapathi et al., (2015) conducted a study to empirically explore the important differences between financial statements prepared using IGAAP and IFRS procedures for ten Indian enterprises that have voluntarily adopted IFRS. According to these researchers, IFRS adoption has resulted in a statistically significant rise in liquidity, profitability, and ratio valuation, as well as optimising Indian companies' ROA and ROE.

Adhikari et al., (2021); Bansal and Garg (2021) used a difference in difference methodology to compare the accounting quality during the pre and post adoption phase. Researchers assess the quality of accounting information presented under IGAAP and Ind AS using a pre and post-IFRS implementation period design. The findings suggest that accounting quality declines soon following the implementation of Ind AS.

Bansal (2023) concluded that the capital market of India reacts negatively to the adoption of Ind AS. The cost of debt, cost of equity and informativeness of stock prices has increased for a sample of 2,685 BSE listed firms whereas market liquidity has decreased. Moreover, this change is more prevalent in small firms as compared to large firms.

Research Gap: On the basis of above extensive review of literature, it can be summarised that most of the studies done in the Indian context are either concerned with the challenges and cost of adopting the new accounting standards or are related with measuring the impact of same on the

financial performance of the firm. A few studies were conducted on the perception of stakeholders regarding adoption of IFRS in foreign countries. No study was conducted with reference to Indian stakeholders of Ind AS. This gap paves the way to conduct the present study which focusses on factors affecting the perception of Chartered Accountants in India regarding the adoption of Ind AS.

RESEARCH METHODOLOGY

The objective of the study is to find out the factors that impact the perception of chartered accountants for the adoption of Ind AS in India. The study is cross-sectional in nature and primary data collected through a structured questionnaire was used in the study. Considering the nature of the study, Chartered Accountants either in service or practice in India were the

The conceptual model for the study is presented in Figure 1.

respondents and therefore, purposive sampling method was used to collect the data. The survey instrument was adopted from previous studies Odia J.O. (2015) and O. Bozkurt et al., (2013) after making changes relevant for the current study. A total of 7 constructs (1 dependent and 6 independent) having 37 statements were measured using a 5-point Likert scale. A total of 388 responses were received out of which 355 were finalised for analysis after removal of unintended responses. Smart PLS 4.0 was used for measurement as well as structural assessment of the model. Bootstrapping analysis was applied in Smart-PLS using 95% of confidence interval and 5000 subsamples (Hair et al., 2013). The bootstrapping process using 5000 samples (Ramayah et. al., 2018, Chin, 2010) has been applied to test the significance of the loadings of each indicator revealing the relative importance and the loading which represents the absolute importance.

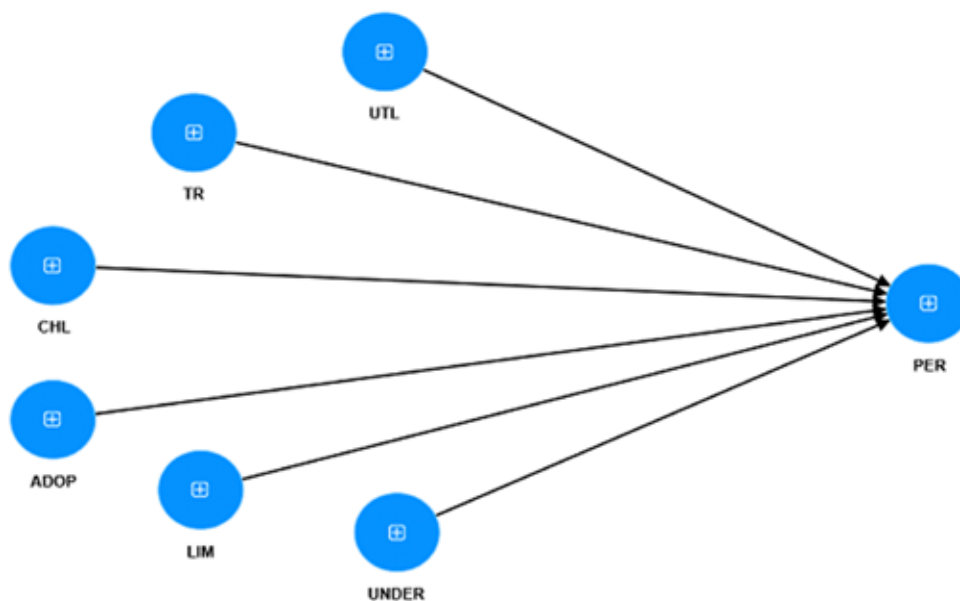


Figure 1: Conceptual Model

ANALYSIS AND INTERPRETATION:**Table 1: Evaluation of the Measurement Model.**

Specification of measurement constructs and indicators			
Latent Variable	Indicator	Outer Loadings	p-values
Adoption Process - Reflective Scale	ADOP1	0.804	0.000
	ADOP2	0.903	0.000
	ADOP3	0.876	0.000
	ADOP4	0.798	0.000
Challenges - Reflective Scale	CHL1	0.753	0.000
	CHL2	0.908	0.000
	CHL3	0.825	0.000
	CHL4	0.836	0.000
	CHL5	0.811	0.000
Limitations and Costs - Reflective Scale	LIM2	0.877	0.000
	LIM3	0.905	0.000
	LIM4	0.857	0.000
	LIM5	0.876	0.000
	LIM6	0.897	0.000
Perception - Reflective Scale	PER1	0.918	0.000
	PER2	0.964	0.000
	PER3	0.915	0.000
	PER4	0.915	0.000
	PER5	0.864	0.000
Training of Accountants - Reflective Scale	TR1	0.789	0.000
	TR3	0.715	0.000
	TR4	0.739	0.000
	TR5	0.791	0.000
	TR6	0.720	0.000
Development of Common Understanding - Reflective Scale	UNDER1	0.733	0.000
	UNDER3	0.771	0.000
	UNDER4	0.778	0.000
	UNDER5	0.790	0.000
	UNDER6	0.745	0.000

Utilities of adoption - Reflective Scale	UTL1	0.841	0.000
	UTL2	0.889	0.000
	UTL3	0.886	0.000
	UTL4	0.893	0.000
	UTL5	0.814	0.000

On the basis of factor loadings, some of the statements were not found suitable for the study, hence, LIM 1, TR 2 and UNDER 2 were removed from analysis.s

In order to validate the model of factors affecting perception of Chartered Accountants regarding adoption of Indian Accounting Standards Structure Equation Modeling (SEM) is used and relevant hypotheses are tested using Smart PLS. The relationship of independent and dependent variables can be examined using PLS-SEM (Hair et al., 2014). PLS-SEM is generally used on the belief that it measures the predictive capability of the model in the best possible way and also provides better quality results (Hair et al., 2014). SEM involves presenting data in a manner related to each other in the form of a structured model. It is usually done with the help of arrows and symbols. Using a structured model will make it easy to analyse the relationship between observed and latent variables. Between the latent variables and their observed indicators, the measurement model accepts unidirectional predictive interactions. Importantly, only one latent construct is typically associated with an indicator variable because multiple relations are not acceptable here (Hair et al., 2014). This analysis is divided down into two parts: the measurement model, which shows how the indicators and their latent variables relate to one another (outer model), and the structural model, which looks at how exogenous and endogenous variables relate to one another (inner model). (Wong, 2013; Hair and colleagues, 2014).

Assessment of the Reflective Measurement Model

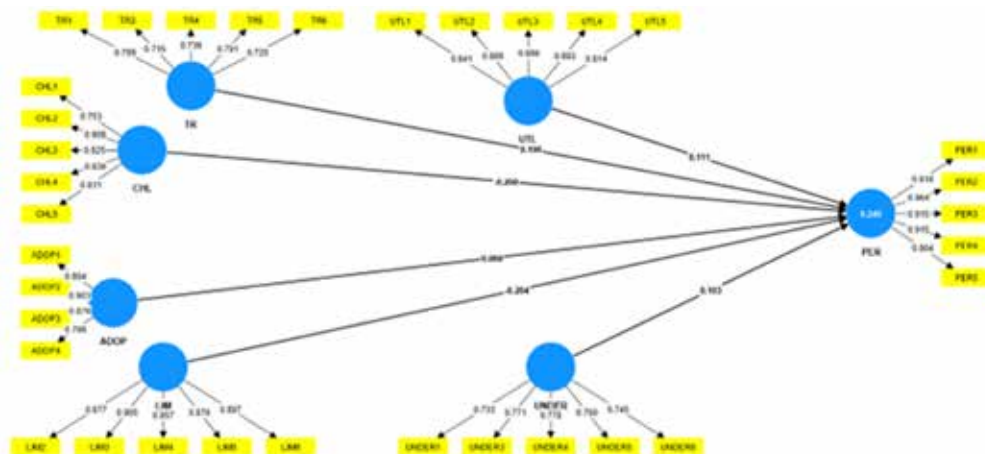


Figure 2: Measurement Model

A reflective measurement model is typically assessed in terms of individual reliability, construct reliability, convergent and discriminant validity, as well as significance and relevance of the outer weights, in order to determine the degree to which these measures have adequate internal consistency.

Measurement of criteria for reflective model is presented in the following sections.

INTERNAL CONSISTENCY RELIABILITY

The evaluation of internal consistency is often assessed by Cronbach's alpha, which provides estimates of reliability based on the inter-correlations of the manifest variables. This is the first requirement for the reflective measurement paradigm (Hair et al., 2014). It is evident from table 2 that the value of Cronbach alpha for all the constructs is greater than .80 for all the constructs. For rho_c also the values are under the acceptable limits and range from lowest value of 0.866 for the constructs measuring TR and management to the highest value being 0.963 for PER. All the values of rho_a are also under acceptable limits. Therefore, it can be concluded that

all the constructs of the study have internal consistency. Rho_c given by Jöreskog's (1971) is one such measure of internal consistency having similar threshold limits as cronbach alpha. It accounts for the various outside loadings of the observed variables (Henseler et al., 2009). Fundamentally, greater values denote a higher level of the CR construct. In exploratory research, CR values for cronbach alpha and rho_c lying between 0.60 and 0.70 are typically regarded as adequate; but, higher values such as 0.70 and 0.90 are preferred in advanced stages (Nunnally & Bernstein, 1994).

INDIVIDUAL ITEM RELIABILITY

The assessment of individual item reliability is done to test whether all the items of one theoretical specific latent construct measure the same thing or not. As per Hair et al. (2014), an item is said to be reliable, if its outer loading is at least 0.05 or above and at the same time the value should be significant, that is the p-value should be less than 0.001. The value of these loading must always lie between -1 to +1 (Tenenhaus et al., 2005, Wong, 2013). Table 1 shows that indicator reliability for all the items is greater than 0.5 and is significant at 1%.

VALIDITY ASSESSMENT – CONVERGENT VALIDITY

Table 2: Convergent Validity.

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
ADOP	0.869	0.886	0.910	0.717
CHL	0.885	0.906	0.916	0.686
LIM	0.929	0.933	0.946	0.779

PER	0.952	0.955	0.963	0.839
TR	0.807	0.810	0.866	0.565
UNDER	0.822	0.824	0.875	0.583
UTL	0.916	0.924	0.937	0.748

The threshold value for AVE to be acceptable is 0.50. However if the value is greater than 0.50, good reliability is generally concluded (Chin, 2010). Table 2 clearly shows that AVE is greater than 0.50 for all the constructs thereby confirming convergent validity.

VALIDITY ASSESSMENT – DISCRIMINANT VALIDITY

Table 3: Discriminant Validity.

Fornell-Larcker criterion

	ADOP	CHL	LIM	PER	TR	UNDER	UTL
ADOP	0.846						
CHL	0.186	0.828					
LIM	0.278	0.253	0.883				
PER	-0.172	-0.328	-0.363	0.916			
TR	-0.423	-0.149	-0.309	0.313	0.752		
UNDER	-0.362	-0.057	-0.272	0.226	0.361	0.764	
UTL	-0.263	-0.500	-0.374	0.319	0.199	0.114	0.865

The Discriminant Validity of a construct is completely opposite to convergent validity. Both convergent and discriminant validity are measured simultaneously. Discriminant validity measures the extent to which items in a particular construct do not highly correlate with other items of a different construct (Hair et al., 2014). The discriminant validity is measured by comparing the correlation of each construct with its respective AVEs. The square root of AVE should be greater than the correlation between constructs (Fornell and Larcker, 1981). It is further suggested by Chin, 1998 that the square root value of each AVE should be at least 0.50. Table 3 shows measurement of discriminant validity using Fornell-Larcker criteria. The values in bold reflect the square root of AVE. It can be seen from the table that all the square roots of AVE > 0.5 and the value is also greater than the correlation between different constructs.

ASSESSMENT OF THE STRUCTURAL MODEL

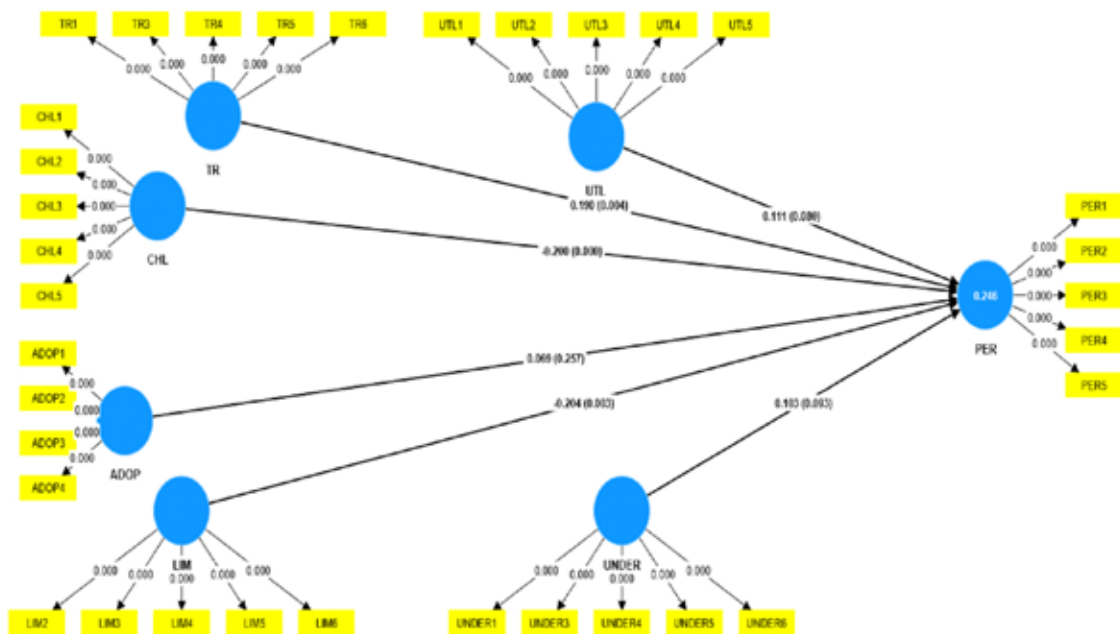


Figure 3: Structural Model

The structural model of the study is evaluated in furtherance to confirming the reliability and validity of the constructs (Hair et al., 2014). The structural model is also sometimes referred to as the inner model (Chin, 2010; Wong, 2013). In the present study, seven latent constructs are used. Adoption, Challenges, Limitations, Training, Understanding are independent while perception is dependent variable. According to Hair et al. (2014) (pp. 167-8), the structural model generally aids in determining how well the actual data support the existing beliefs and notions.

R SQUARE COEFFICIENT DETERMINATION

R-square			
	R-square	R-square adjusted	Significance (P-Value)
PER	0.246	0.233	0.000

The level of R² explains the variance in the dependent variable because of the independent variable. The adjusted R² of the model is 0.233 which means the independent variables are able to explain 23.3% variance in dependent variable.

Table 4: Model Fit.

	Saturated model	Estimated model
SRMR	0.047	0.047
d_ULS	1.340	1.340
d_G	0.663	0.663
Chi-square	1372.122	1372.122
NFI	0.843	0.843

A value of SRMR less than 0.10 or of 0.08 (in a more conservative version; see Hu and Bentler, 1999) is considered a good fit. Henseler et al. (2014) introduce the SRMR as a goodness of fit measure for PLS-SEM that can be used to avoid model misspecification.

Normed Fit Index (NFI) or Bentler and Bonett Index is another measure of model fit. The closer the NFI to 1, the better the fit. Bentler and Bonett (1980). The $d_{ULS} < \text{bootstrapped HI } 95\%$ of d_{ULS} and $d_G < \text{bootstrapped HI } 95\%$ of d_G indicating the data still fits the model well. $d_{ULS} = 1.340$; $d_G = .663$; $\text{Chi}^2 = 1372.122.276$ indicate the model good fit.

Table 5: Path Coefficients.

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values	Hypothesis
ADOP -> PER	0.069	0.060	0.061	1.133	0.257	Not Supported
CHL -> PER	-0.200	-0.204	0.049	4.110	0.000***	Supported
LIM -> PER	-0.204	-0.201	0.068	2.991	0.003***	Supported
TR -> PER	0.190	0.193	0.066	2.897	0.004***	Supported
UNDER -> PER	0.103	0.108	0.061	1.679	0.093*	Supported
UTL -> PER	0.111	0.109	0.064	1.749	0.080*	Supported

***significant at 1%, *significant at 10%

The next step in PLS-SEM is to establish the hypothesized relationship for all the constructs under study (Kaplan, 2000; Wong, 2013). The path coefficients can attain both positive as well as negative values depicting relationship. The range of path coefficients is between -1 to +1 which depends on the standard error

(Tenenhaus et al., 2005; Hair et al., 2014). Table 5 presents the hypothesis testing results for all the constructs under study. The path coefficients are tested for significance at 1% and 10% level. Therefore, all the path coefficients with p value < 0.001 are accepted (Henseler et al., 2009; Hair et al., 2014) at 1% while path coefficients

with <0.1 are accepted at 10%. The findings of the study revealed that Adoption does not have any significant impact on perception of Chartered Accountants regarding adoption of Indian Accounting Standards as the values of path coefficients are not significant. Therefore, Hypothesis 1 of the study is not supported. All the other variables (Challenges, Limitations, Training, understanding and Utility) are having a significant direct impact on perception of Chartered Accountants regarding adoption of Indian Accounting Standards.

CONCLUSION

While India was in the stage of adopting the new standards, many challenges and problems were there in front of the standard setters that they have to deal with. The objective of this study was to figure out major factors that have implications on the thought process of Chartered Accountant regarding transition to Ind AS. Using Confirmatory Factor Analysis

approach with the help of Smart PLS it was found that challenges and limitations both have a significant negative impact while training, development of common understanding and utilities have a significant positive impact on the perception of accountants but adoption process was found to be non-significant. The results of the study are in confirmation with prior studies done in countries like Nigeria, Canada and India (Odia J.O., 2015), (O. Bozkurt, 2015), (Vinod Joshua et al. 2017).

IMPLICATIONS

Based on the findings Chartered Accountants can use the study to know how Utilities, Challenges and Cost associated with a particular change in standards can affect their perception regarding the same. Regulatory authorities like ICAI can also use the study to analyse how important it is to develop common understanding about the new standards to be issued and provide training for the same.

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CUSTOMER EXPECTATION AND SATISFACTION OF HOUSEKEEPING SERVICES: A BIBLIOMETRIC ANALYSIS OF DATA

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ABSTRACT

Customer Expectation and Satisfaction have always been an engrossing and important topic of interest for the hospitality researchers. It is important because it helps in understanding the needs of the customers and then generating and providing services accordingly. The purpose of this research paper is to provide the analytic data of the work that has been done in the field of customer expectation and satisfaction in hospitality industry. Using the keywords Hospitality and Customer Satisfaction a bibliometric analysis of 415 published research articles of 21st century. From the above mentioned research articles the most cited countries, authors, most referred articles and other parameters.

Keywords: Customer Satisfaction, Hospitality Services, Review and Customer Expectation.

INTRODUCTION

With the increasing competitiveness the market proximity of products and services lies on

Customer expectation which should be reviewed periodically[1]. Customer Expectation and Satisfaction in the hospitality industry are the most debatable topics over past one decade[2]. Customer Expectations are interim presumption about a service or product[3]. When there is no prior information is available to guest, the expectations of the customer will completely diffuse. But in the real world the sources of information of customers are abundant which lead to the expectations about the product and services, word of mouth publicity, controlled communication (price, personnel selling and advertising etc.) by the organization and expert opinion[4]. There is a great enthusiasm for customer expectation and satisfaction that can be accredited to its importance achieving and accomplishing money-related results and maintainable upper hands[5]. Subsequently, authors like Perez and Rodriguez Del Bosque[6-8], emphasized on the analysis of the consumer behaviour periodically by the executives to gain the competitive advantage. The services play an important role in improving customer satisfaction by providing apt and necessary services as per the expectations

of the customers. It creates an emotional responsibility that forces the customers to depend on the experience they had which results in their revisit to the hotel[9-12]. During the stage of pre-purchase, the decisions are influenced by expectations which will influence the decision to buy the type of services of products or brand type. During the post- purchase stage, the basis of expectations are formed from the evaluation of service satisfaction[13]. A lot of studies have suggested multiple type of expectations are used by customers during the evaluation of their satisfaction process[14]. The type of expectations may be named as Predictive Expectation and Normative Expectation. Customer expectation is a complicated and complex idea which includes vibrant trades and multidimensional analysis but still troubles may arise while distinguishing their measurements[15]. [16] authors, concluded that customer loyalty is a product of customer satisfaction which ultimately adds on to the profitability of the organization. "Customer Satisfaction refers to the reaction of customers towards the state of satisfaction or how they judge their level of satisfaction for the services they receive[17]". Customer satisfaction is a result of the experience of the customer which is an outcome of the service quality given to the customer. Customer loyalty and customer stands in line with and are result of the service quality provided by any organization to its customers[18]. When explored by the researchers customer satisfaction fascinating outcomes have been delivered by it in which various measurements are explained [19-22]. Researchers have established connections between the value resilience and service, while conducting the measurements, positive proposals, the

repurchasing conduct and verbal. Customer satisfaction, trust, commitment and duty are considered to be the main factors that results in faithfulness[23]. Many observation models were developed while examining these factors and a positive relationship can be observed between them[24]. Apart from the above aspects authors[25], asserted that commercial relations are result of customer satisfaction of the clients visiting the hotel and cherishing their services. Authors [26], suggested that perception of exceeding expectations and how these needs are fulfilled by the staff can be taken as a measure count of customer expectation with the increasing competitiveness in the market. Having a satisfied customer is a blessing which is also an indicator of the performance of the designated staff. This is aligned with the urges of business strategies and demand of the customer. Authors [27-28] concluded that perceived equity is the psychological response of the guests to the services offered by the hotels to them during their stay. They further added that equity boosts customer satisfaction that can be described in the form of cumulative satisfaction as a part of business relationships. All the plans, policies and actions ought to be analyzed constantly to improve customer satisfaction[29]. Authors[30-31], stated that an intrinsic associations exists between customer satisfaction and customer loyalty which depends upon various dimensions and variables that are formulated by varied scenarios. According to the author[32], "bibliometrics as the application of mathematical and statistical method to books and other means of communication. This is done by analysing the empirical data of the already published articles. Using bibliometric analysis

pattern of the existing published literature can be studied the patterns that can be are the top references per year, most referred authors, most cited authors, most cited countries, most cited journals, and many more. This can be done by utilizing the software scopus, which allows one to develop logical guides inside the logical region which acts as a superior perception[33-34].

OBJECTIVES

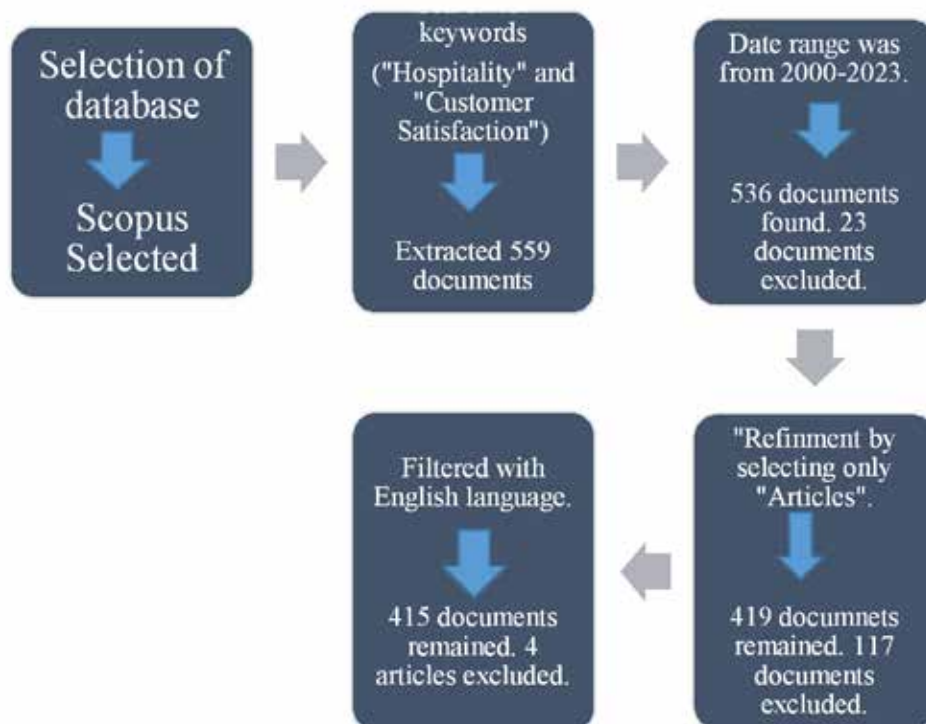
1. To find out the research publication growth on customer satisfaction and customer expectations in the field of Hospitality with their citation trends from the period of 2000-2023.
2. To review the most dominant country, institution, author, article of selected field of research.

Selection of Articles

3. To identify most impactful journals with highest citations for their research in the selected field and time frame.
4. To study the research trends by analysing the key words in the selected field of research.

RESEARCH METHODOLOGY

Research Methodology is a way of scientifically and systematically to solve the research problem. Researchers should be aware on how to develop certain tests or indice, how to calculate the mode, mean, median or chi-square or standard deviation and how to implement the resource techniques. They should be also aware of techniques or methods, whether they are relevant or not. Research methods are part of Research Methodology.



The selection of articles was done from the scopus database. The number of articles that were found using the keywords “Hospitality” and “Customer Expectation” found to be 559. The time period from which the data has been taken is also specific. The time period taken is between 2000-2023. When this filter was applied 23 documents got excluded and we were left with only 536 documents. Again scrutiny was done and now out of all the published work only research articles were taken. During this process 117 documents got eliminated and only 419 articles remained. In the final scrutiny only articles from english language were selected and rest were excluded. In the last were have finalized 415 articles.

DATA ANALYSIS

Table 1: Summary of the main information.

Description	Results
Timespan	2000 to 2023
Documents	410
Authors	961
Authors of single-authored documents	59
Authors of multi-authored documents	902
Documents per Author	0.427
Author Appearances	1094
Author's Keywords	1149
Average citations per documents	29.05
Authors per Document	2.34
Co-Authors per Documents	2.67
Collaboration Index	2.61

The time period that was selected to carry out this research is between 2000-2023. The number of final articles that were used to analyse the data are 415. The number of authors whose work is being studied to carry out this research is 961. The number of documents that are single- authored are 59 and the number of documents that are double authored are 902. The mean of number documents per author is 0.427. The number of author appearances is 1094. The number of author's keywords is 1149. The number of average citations per document is 29.05. The mean count for authors per document is 2.34. The mean count for the number of co-authors per document is 2.67. The mean of the collaboration index for the data analysis is 2.61.

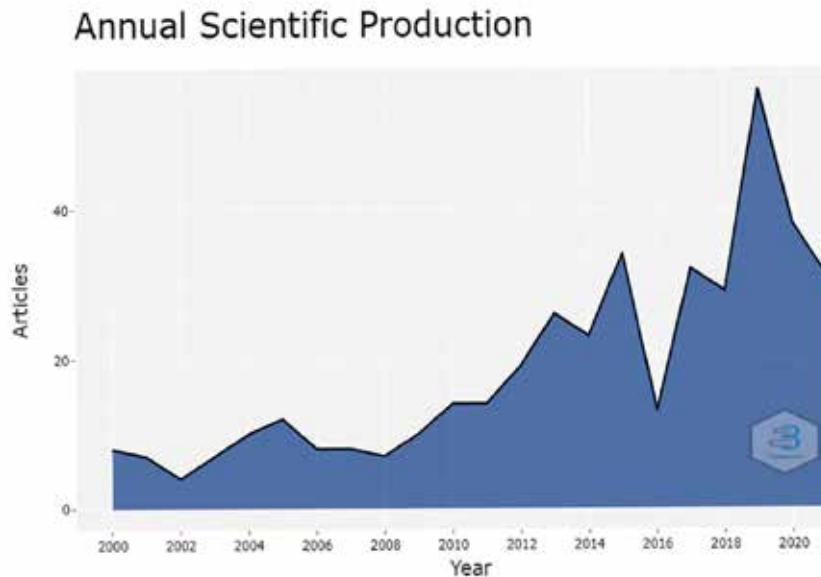


Figure 1

Figure 1 depicts the annual scientific production of articles. The time period depicted in the figure is between 2000-2023. It can be analyzed from the above figure that not much research articles were published in the field of customer expectations and satisfaction in hospitality. But as one can see that researchers gained interest in this concept around 2012 and from there several researchers have written about it. A dip can be observed around the year 2016 which resulted in a peak in the year around 2019. The number of research articles were lowest in the year 2002.

Table 2: Annual Citations per year.

Year	N	Mean TC Per Article	Mean TC Per Year	Citable Years
2000	8	157.63	7.51	21
2001	7	50.29	2.51	20
2002	4	30.25	1.59	19
2003	7	66.14	3.67	18
2004	10	20.30	1.19	17
2005	12	38.08	2.38	16
2006	8	53.88	3.59	15
2007	8	47.75	3.41	14
2008	7	101.71	7.82	13
2009	10	80.50	6.71	12

2010	14	43.43	3.95	11
2011	14	25.14	2.51	10
2012	19	29.11	3.23	9
2013	26	39.35	4.92	8
2014	23	25.70	3.67	7
2015	34	33.41	5.57	6
2016	13	25.00	5.00	5
2017	32	26.53	6.63	4
2018	29	10.83	3.61	3
2019	56	14.50	7.25	2
2020	38	3.47	3.47	1
2023	31	0.94		0

Table 3: Most productive author in terms of Citations.

Rank	Author	Documents	Citations
1	Kandampully J.	6	990
2	Gursoy D.	4	377
3	Torres E.N.	5	308
4	Chen X.	3	224
5	Su L.	3	224
6	Karatepe O.M.	3	208
7	Ariffin A.A.M.	4	206
8	Law R.	6	174
9	Hussain K.	3	153
10	Albayrak T.	4	137

Table 5: Top Performing Institutes.

Rank	Organization	Documents	Citations
1	Department of Hospitality and Tourism Management, Purdue University, West Lafayette, In, United States	2	405
2	Department of Tourism Management, College of Business Administration, Dong-A University, Busan, South Korea	2	377
3	Rosen College of Hospitality Management, University of Central Florida, Orlando, Florida, United States	2	119
4	Michigan State University, United States	2	102

5	School of Hotel and Tourism Management, The Hong Kong Polytechnic University, Hong Kong	5	95
6	Faculty of Business Economics, Singidunum University, Belgrade, Serbia	2	90
7	Faculty of Computer Science, Singidunum University, Belgrade, Serbia	2	90
8	Faculty of Tourism and Hospitality Management, Singidunum University, Belgrade, Serbia	2	90
9	School of Tourism and Hospitality, University of Johannesburg, Johannesburg, South Africa	3	87
10	Rosen College of Hospitality, University of Central Florida, Orlando, FL, United States	2	87

Department of Hospitality and Tourism Management, Purdue University which is situated in United States has maximum number of 405 citations in the last 21 years. Following in this list is the Department of Tourism Management, College of Business Administration, Dong-A University, Busan, South Korea with 377 citations with only 2 documents. The institute which has least number of citations as per the list is Rosen College of Hospitality, University of Central Florida, Orlando, FL, United States with only 87 citations. School of Tourism and Hospitality, University of Johannesburg, Johannesburg, South Africa has the same number of citations.

Table 6 : Top 10 Research Article.

Author	Title	Year	Journal	Citations
Kandampully J., Suhartanto D.	Customer loyalty in the hotel industry: The role of customer satisfaction and image	2000	International Journal of Contemporary Hospitality Management	535
Banker R.D., Potter G., Srinivasan D.	An empirical investigation of an incentive plan that includes nonfinancial performance measures	2000	Accounting Review	425
Martínez P., Rodríguez del Bosque I.	CSR and customer loyalty: The roles of trust, customer identification with the company and satisfaction	2013	International Journal of Hospitality Management	353
Fan W., Gordon M.D.	The power of social media analytics	2014	Communications of the ACM	298

Chi C.G., Gursoy D.	Employee satisfaction, customer satisfaction, and financial performance: An empirical examination	2009	International Journal of Hospitality Management	290
Ryu K., Han H., Jang S.S.	Relationships among hedonic and utilitarian values, satisfaction and behavioral intentions in the fast-casual restaurant industry	2010	International Journal of Contemporary Hospitality Management	274
Ladhari R.	Service quality, emotional satisfaction, and behavioral intentions: A study in the hotel industry	2009	Managing Service Quality	208
Kandampully J., Zhang T.C., Bilgihan A.	Customer loyalty: A review and future directions with a special focus on the hospitality industry	2015	International Journal of Contemporary Hospitality Management	207
Yuan Y.-H., Wu C.	Relationships Among Experiential Marketing, Experiential Value, and Customer Satisfaction	2008	Journal of Hospitality and Tourism Research	205
Kassinis G.I., Soteriou A.C.	Greening the service profit chain: The impact of environmental management practices	2003	Production and Operations Management	205

Kandampully J. and Suhartanto D. has written an article which got published in International Journal of Contemporary Hospitality Management has highest citations i.e. 535. The article deals with the role of customer satisfaction in loyalty towards the hotel. The article got published in 2000. The article with second highest numbers in terms of citations is 425. Kassinis G.I., Soteriou A.C. has written an article which has the least number of citations in the list with only 205 citations.

Table 7: Most Frequently Occurred keywords.

Authors Key Words		Title Key Words	
Terms	Occurrence	Terms	Occurrence
Customer Satisfaction	198	Customer	156
Service Quality	64	Satisfaction	147
Hospitality	57	Hospitality	138
Hotels	36	Service	124
Hospitality Industry	33	Industry	87
Customer Loyalty	31	Hotel	81
Satisfaction	27	Quality	70
Tourism	25	Study	45
Loyalty	17	Loyalty	37
Hospitality Services	13	Hotels	35

415 research articles were used to carry out this analysis. Customer Satisfaction occurred 198 times

which makes it most frequently occurring keyword followed by Customer 156 times and Satisfaction 147 times. Other frequently occurring keywords turn out to be hospitality, Service, Industry etc. Hospitality Services is keyword that has occurred least 13 times only.

Table 8: Top Performing Countries in terms of Documents.

Rank	Country	Documents
1	United States	113
2	India	33
3	United Kingdom	28
4	Malaysia	26
5	China	25
6	Turkey	25
7	Australia	23
8	Taiwan	22
9	Spain	20
10	Hong Kong	19

When the top performing countries were listed in terms documents it can be concluded that United States of America has the highest number of documents i.e. 113. Though there is huge difference in the number but India appears to be second highest performing country with 33 documents. Hong Kong has the lowest number documents i.e. 19 in the field of Customer Expectation and Satisfaction.

Table 9: Top Performing Countries in Terms of Citations.

Rank	Country	Documents	Citations
1	United States	113	5257
2	Australia	23	1334
3	United Kingdom	28	931
4	China	25	919
5	Turkey	25	829
6	Spain	20	706
7	Indonesia	11	684
8	Malaysia	26	562
9	Cyprus	6	499
10	South Korea	12	489

United States of America has not only the highest number of research articles but also has the maximum citations. The number of citations by US authors are 5257. Australian authors have 1334 citations and ranks second in the list from the top. The number research articles by Australian

authors are 23. South Korea has least number of 489 citations with 12 research articles. Cyprus has lowest number of only 6 research articles.

Table 10: Most Cited Journal.

Rank	Source	Citations
1	International Journal of Hospitality Management	968
2	Journal of Marketing	839
3	International Journal of Contemporary Hospitality Management	830
4	Tourism Management	611
5	Journal of Retailing	403
6	Journal of Marketing Research	387
7	Journal of Business Research	362
8	Journal of Services Marketing	278
9	Journal of Travel Research	255
10	Journal of The Academy of Marketing Science	251

A list of top 10 cited journals was prepared in the Hospitality sector and the journal that has the maximum number of research citations in the field of Hospitality is International Journal of Hospitality Management. It has 968 citations. It is followed by Journal of Marketing in the list with 839 citations. The lowest number of citations are observed from Journal of The Academy of Marketing Sciences with only 251 citations.

Table 11: Most Cited Author.

Rank	Author	Citations
1	Parasuraman, A.	390
2	Zeithaml, V.A.	382
3	Berry, L.L.	321
4	Oliver, R.L.	248
5	Han, H.	181
6	Fornell, C.	174
7	Bitner, M.J.	162
8	Law, R.	161
9	Mattila, A.S.	154
10	Ryu, K.	129

Parasuraman A. is the most cited author who has done maximum research about Customer Expectation and Satisfaction in the field of Hospitality. The number of citations is 390. Zeithaml V.A. has second highest citations i.e. 382. Ryu K. has lowest number of citations i.e. 129.

Table 12: Most Cited Reference.

Rank	Cited Reference	Citations
1	Fornell, C., Larcker, D.F., Evaluating Structural Equation Models with Unobservable Variables and Measurement Error (1981) Journal of Marketing Research, 18 (1), Pp. 39-50	28
2	Kandampully, J., Suhartanto, D., Customer Loyalty in The Hotel Industry: The Role of Customer Satisfaction and Image (2000) International Journal of Contemporary Hospitality Management, 12 (6), Pp. 346-351	21
3	Oliver, R.L., A Cognitive Model of The Antecedents and Consequences of Satisfaction Decisions (1980) Journal of Marketing Research, 17 (4), Pp. 460-469	19
4	Gronroos, C., A Service Quality Model and Its Marketing Implications (1984) European Journal of Marketing, 18 (4), Pp. 36-44	16
5	Parasuraman, A., Zeithaml, V.A., Berry, L.L., Servqual: A Multiple-Item Scale for Measuring Consumer Perceptions of Service Quality (1988) Journal of Retailing, 64 (1), Pp. 12-40	15
6	Parasuraman, A., Zeithaml, V.A., Berry, L.L., A Conceptual Model of Service Quality and Its Implications for Future Research (1985) Journal of Marketing, 49 (4), Pp. 41-50	14
7	Zeithaml, V.A., Berry, L.L., Parasuraman, A., The Behavioral Consequences of Service Quality (1996) Journal of Marketing, 60 (2), Pp. 31-46	12
8	Anderson, J.C., Gerbing, D.W., Structural Equation Modeling in Practice: A Review and Recommended Two-Step Approach (1988) Psychological Bulletin, 103 (3), Pp. 411-423	10
9	Dick, A.S., Basu, K., Customer Loyalty: Toward an Integrated Conceptual Framework (1994) Journal of The Academy of Marketing Science, 22 (2), Pp. 99-113	10
10	Pizam, A., Ellis, T., Customer Satisfaction and Its Measurement in Hospitality Enterprises (1999) International Journal of Contemporary Hospitality Management, 11 (7), Pp. 326-339	10

An article by the title "Evaluating Structural Equation Models with Unobservable Variables and Measurement Error" is by C. Fornell, L.F. Larcker is the most cited reference of the 21st century. It has been cited 28 times. Followed by this, the article with the title "Customer Loyalty in The Hotel Industry: The Role of Customer Satisfaction and Image" has the second highest cited reference i.e. 21 times. It got published in the International Journal of Contemporary Hospitality Management in the year 2000. The authors of this article are J. Kandampully and Suhartanto. Three article references with same number of citations (10) are lowest among all.

CONCLUSION

Over the past decades, customers have increased presumptions that have led to growth in the services of the hotels. But the pandemic has created has brought the paradigm shift in the services of the hotel. Numerous papers published on the concerned topic have been reviewed for the analysis. This research will enable the future researchers to identify the most significant research articles and the authors and the work done related to topics customer expectation and satisfaction. It was further revealed that International Journal of Contemporary Hospitality Management has done the most significant work in the terms like “Customer

satisfaction” and “Hospitality”. United States has emerged out as the top performing country both in terms of citations and number of documents. The author that has contributed most towards this field is also mentioned.

LIMITATIONS OF THE STUDY

This research article has limited its study to a specific time period i.e. between 2000-2023 with search based on the keywords like “Hospitality” and “Customer satisfaction”. Other published work like work published in journal, conference proceedings have been excluded from the study. 415 articles were selected at last. The study is domain specific as well.

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DESIGN THINKING & VIRTUAL MANAGEMENT TRAINING: A SYSTEMATIC LITERATURE REVIEW

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ABSTRACT

Does the time of 21st century training necessitate exploration into emerging research pedagogies like design thinking for a better understanding of how design influences business and management? This review explains the changes in training perspectives within management settings using creative engagement methods like design thinking which call into question the future of dynamic business innovation. The paper undertakes a Systematic Literature Review of this nascent field, followed by a Bibliometric Analysis, Content Analysis to present a taxonomy of the field, and finally outlines interesting questions for future research to address.

Keywords: Design Thinking, Virtual, Management Training, Systematic Literature Review.

INTRODUCTION

In recent literature, Design thinking is advancing popularity across almost all academia

disciplines, inclusive of administration, academia, entertainment, and information technology. Although the implementation of design thinking in managerial challenges is rather recent and uncharted, organizations are attempting to apply this notion to many situations, and academics and global practitioners are attempting to redefine and construe it (David & Martin, 2006). Contemporary literature explores how Design thinking has the potential to solve problems across several management functional areas specifically it is gaining dexterous traction in management business training. Notwithstanding, according to recent research, the problem encountered by a trainer today is complicated and hardly resolved by linear answer. To tackle training challenge creatively, design thinking might be employed through continuous practice (Henriksen et al., 2017). Nonetheless, as participants work in multidisciplinary teams, business management students and/or trainees throughout the world encounter a variety of problems. They can be well equipped to

deal with real-life difficulties by using design thinking methodologies accompanied with flipped classes, bootcamps and client-based projects (Foster & Yaoyuneyong, 2016). Furthermore, design creation tactics stimulate divergent thinking, which now more than ever, requires an inclusive dynamic design-based process to enhance learner's/trainee's creative and analytical explorations and experimentation (Singh & Gu, 2012).

Paradoxically, it is noticeable that researchers have begun to pay greater attention to the area, yet previous researchers have only focused on broad aspect and fields of application of design thinking but not comprehensively on the central theme of design thinking in management training. If left unaddressed, a major transformation in management training

might go unearthed. This paper contributes to the emerging field by understanding the developments in the use of design thinking in management training academia to underpin the gaps for empirical research. The paper is structured as follows: Methodology, SLR, Content Analysis, Discussion and Future Scope, Implications, Conclusion and Limitations.

METHODOLOGY

As the design thinking in the arena of management training research field is just emerging, we chose a qualitative niche focused systematic literature review (SLR) methodology to examine the underlying field. The authors conducted a SLR using PRISMA guidelines. The authors sourced the articles from the

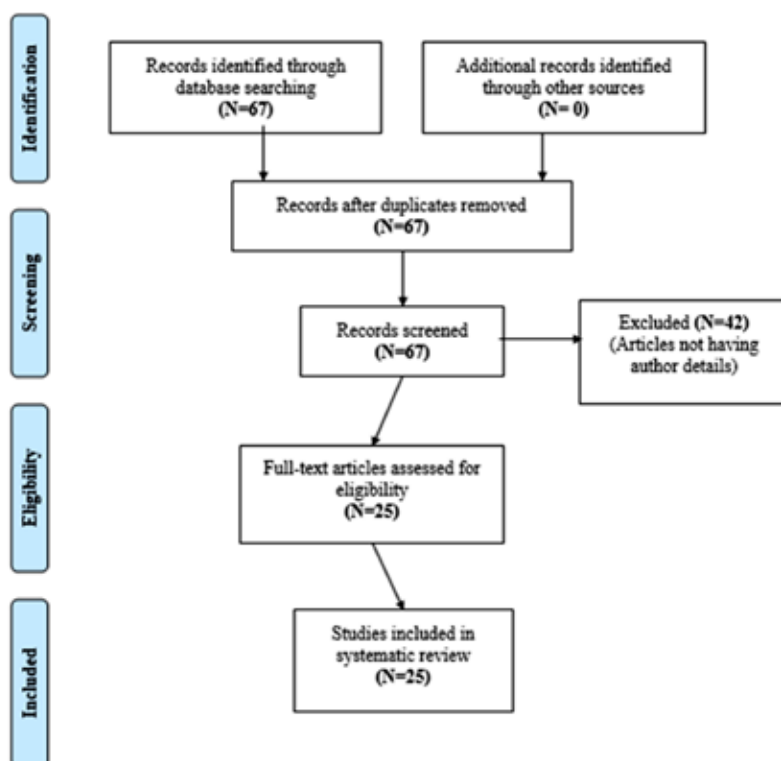


Figure 1: Data curation Process. Source: Scopus Systematic Literature Review

Scopus database. The search string used was: “design thinking” AND “management training”. The search process generated 67 academic papers from 2013 to 2022. Authors jointly limited document type of ‘Articles’ resulting in 38 papers, in the ‘Final stage of the publication’ resulting in 35 papers, the source type was limited to ‘Journal’ resulting in 35 papers, with limiting the language to English leading to 35 papers, and limited to area of Social Science, Business Management and Accounting, Psychology, Arts and Humanities, and Neuroscience resulting in 25 papers. See figure 1 for data curation process.

SYSTEMATIC LITERATURE REVIEW

Descriptive Statistics

Figure2 displays design thinking and management training research articles by

year. The topic is novel, as the first traceable article was published in 2013. The fall in year 2022 is because to data extraction process concluded articles only till June 2022. The most impactful country based on the number of publications in the domain of design thinking and management training was United Kingdom with 6 documents(see Figure3). All developed countries are evolving their training methodologies via design thinking. India is yet to find place in this recent trend. The h-index is 9 which indicated that of the 25 documents considered for the h-index, 9 have been cited at least 9 times (see Figure 4). These citations in recent years means that the area is gaining significant interest in management academic as well as organizational press and training.

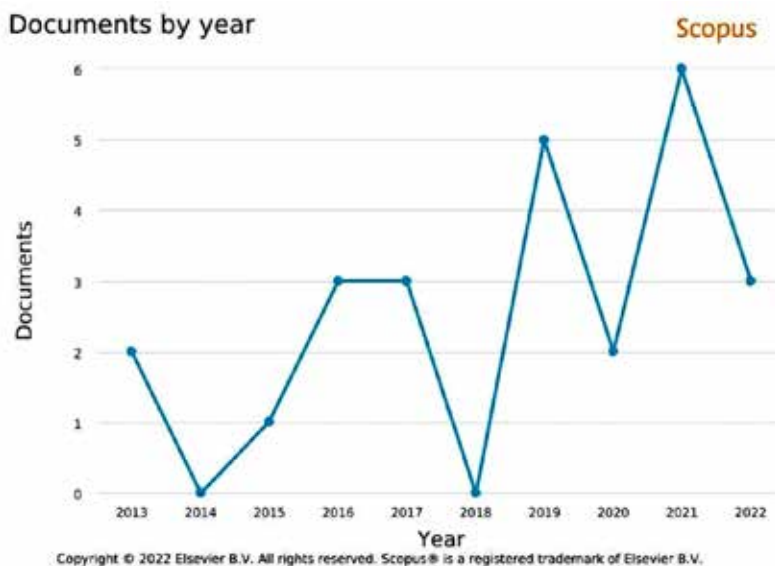


Figure 2. Publication Trend. Source: Scopus

Documents by country or territory

Compare the document counts for up to 15 countries/territories.

Scopus

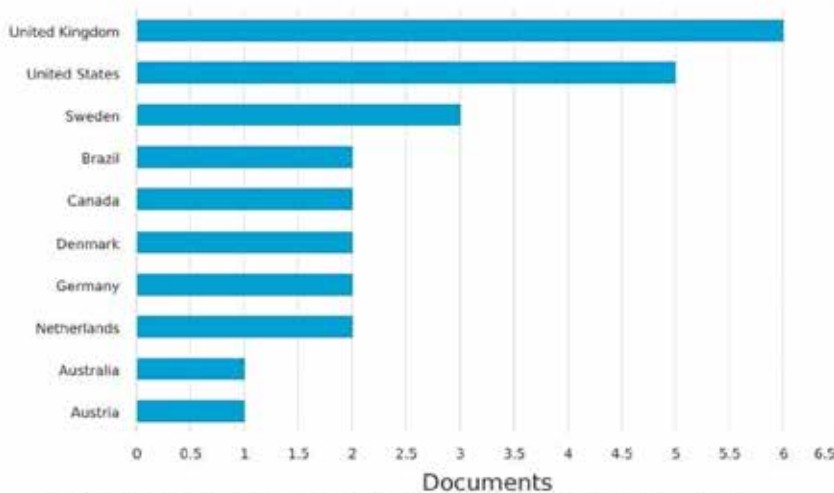


Figure 3. Top Contributing Countries. Source: Scopus

These documents h-index9

Of the documents considered for the h-index, have been cited at least times

Scopus

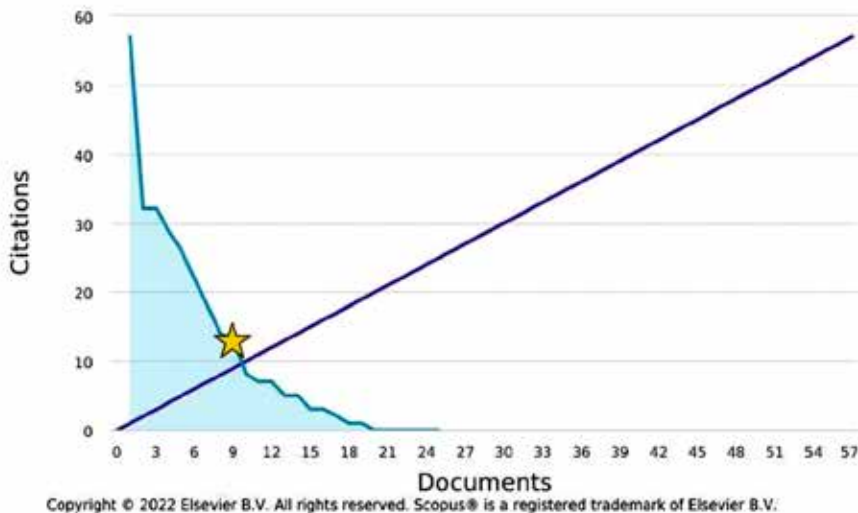


Figure 4. h-index9. Source: Scopus

Viewer

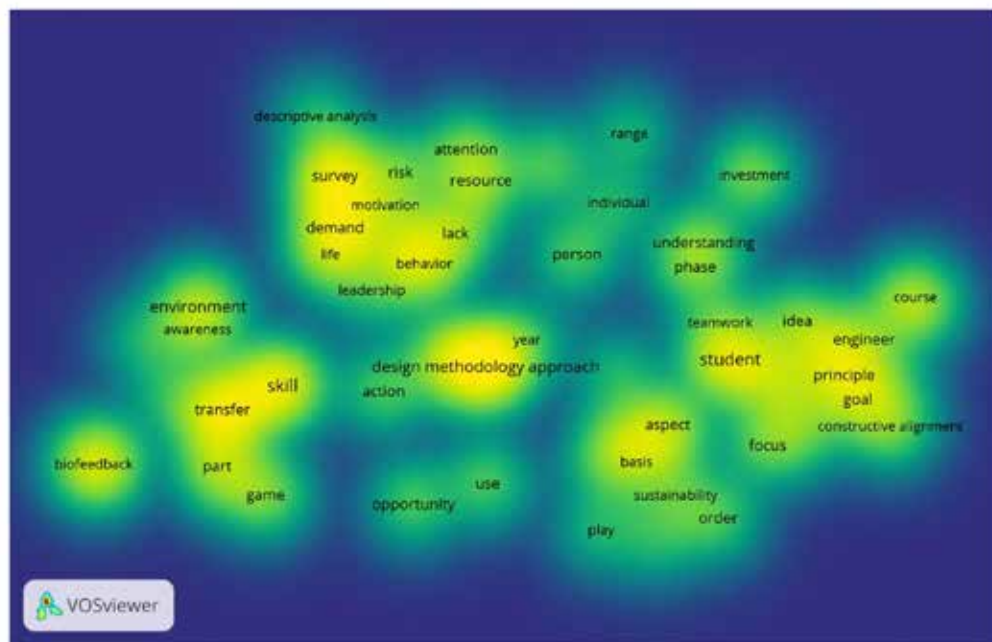


Figure 6: Density visualization for co-occurrence analysis of text data. Source: VOS- Viewer

Content Analysis

We undertake comprehensive content analysis to present the themes and propose a taxonomy of the literature as in Figure 7.

Virtual Reality and Thinking Processes-

When existing methods are questioned or replaced by techno-based innovation, and when existing markets and societal institutions transform into coetaneous bodies, disruptions are more likely to occur. These factors confront training in humdrum, and specifically management training. In industry 4.0 technology and virtual reality is altering how and where learning happens, as well as how and why it is evaluated, along with the continuing globalization of managerial and business academia which has affected trends

and market designs (Bennis & O'Toole, 2005). Furthermore, previous research has examined how well the advent of digital technology has caused a rethinking of the learning and un-learning training models and pedagogies in the wake of design thinking. Research further found that design thinking is an appropriate erudition alternative in this digital age (Kevern, 2011).

Artificial Intelligence, Advanced Technology, Tools, and Materials-

Based on prior research, Johansson-Skoldberg et al. (2013) mentioned that 2011 marked a watershed moment in design thinking due to the Cambridge Conference on Design Management. Research mentions, (Sleiman et al., 2019), to face future problems, a virtual

design-thinking workbook, virtual planner books and artbooks can be quite useful since it inspires and engross students by lifting the designer block with artificial intelligence and advanced technologies to aid in the execution of these ideas. To address society's forthcoming need, research has also advised adopting a designer workbook as a distinct course/stimulation. Design based training, tools and content related to design and creativity curriculum, provides for the customization of the training system, and allow the student to pick the sort of challenges they wanted to pursue on creatively. Studies have made an orphic statement that decision- makers must use creative abduction to think of new ways to animate proposed concepts and explore new core creative concepts (Dong et al.,2015). It is stated that parametric perspective is a key strategic and innovative medium in parametric design thinking (Rivka, 2017).

Modern Models and Methods-

Lee (2019) discussed the double diamond model, which aids students brainstorm, with increased focus on design pedagogy-based training, design interventions and design-based stimulations (Chambers, 2018). Many approaches of design thinking have evolved throughout time and again (Cross, 2018), from humane design thinking to intelligent technological design thinking. However, less is argued to agree that the technique was introduced by the well-known creative power-house firm IDEO, who proffered a multi-layer model that combines the authenticity and underpinnings of customer needs through empathy and observations with the dependability of abstract reasoning in idea creating, screening, and

execution. The IDEO method is sentient and encourages an environment of radical interaction and experimentation, which would also result in discoveries that are more strongly associated with the demands of end users. This method comprises empathising and defining (inspiration), which entails complete absorption in brainstorming and structured observations to better comprehend challenges. The most imaginative and crucial step of the process is ideation in which participant collaborate in focus groups, teams and together learners decide on design offerings and solutions.

Flexible Mindset and Engagement-

Additionally, design thinking based integrated learning assists trainees in developing a unique identity and pansophic voice as a design thinker/individual (Arnold, 2010). Design Thinking is an attitude and mindset of growth, collaboration, and problem solving. The design mindset is an organised basis for sailing through challenges, embracing unstructured information, developing potential solutions, and polishing ideas. Trainers might state that design thinking mindset may be used in a variety of ways, including as a foundation for instructional planning or as a strategic plan for an engagement or scheme of work.

Training Outcomes-

Various studies have examined pedagogy innovation using design thinking to improve participants' experience and learning journey (Huq & Gilbert, 2017). Studies on value - creating design-based approaches in business and managerial training state (Abrams & Walsh, 2014) that this is a rather promising

but (Nielsen & Stovang, 2015) an understudied field of research, which seeks to determine if the advances in training subculture need a rethinking of existing methods (Burdick & Willis, 2011).

Design thinking in VUCA (volatility, uncertainty, complexity, and ambiguity) world is a feature of the new age (Cousins, 2018). To address this issue, design thinking is emerging with prominence since it allows trainees and organisations to learn quickly (Kali et al., 2011). Because industries worldwide are evolving in tandem with technical and social advancement, there is a salient need for a shift in the present academic paradigm if we want to put learners as employees in the business (Wrigley & Straker, 2017). Previously, design-based thinking was studied in the light of academic learning design concept (David & Martin, 2006; Carroll et al., 2010; Bekker et al., 2015). A growing insistence on the business and managerial impact of design thinking in recent times is unfolding in literature (Nielsen & Stovang, 2015). As the industrialised world's economy shifts away from industrial production and toward service, knowledge addition, and human-intended activities. As per the seminal paper in the field, design-based thinking might contribute significantly to modern virtual training approach (Brown 2008). Nonetheless, current body of literature is conflicting in the state of empirical data, since few researchers feel that imagination in design thinking is a socio-cultural phenomenon that occurs once someone engages with an experienced practitioner. According to research design thinking is an 'effective learning strategy' that can help learners integrate and process

concepts (Gemez et al., 2013). Studies have also explored the significance of sociocultural design, how and why designers should be conscious of it (Janzer & Weinstein, 2014).

The Palo Alto Art Center were able to provide a solution to the royal family's problems through design thinking. Design thinking is a more human-centred approach to question answering (Larson, 2017). Research has also discussed effectiveness to innovate, even though there are still other topics to examine with the creativity model (Roach et al., 2016).

Deficiencies in training curricula and pedagogy-

There is an interesting side of the story were following the critique of the great relevance of business school curricula, invites for modifications to management training have been made, with a specific emphasis on injecting and exploring a greater focus on practise; that thus said is, transition from academic activities to developing the skills for managing 'businesses and people' (Bennis & O'Toole, 2005; Navarro, 2008). This innovative approach of managerial training changes the substance of the curriculum but not how knowledge is transferred or gained. Indeed, the major emphasis is on what is delivered rather than how it is offered, suggesting that progressive methods are now being advocated as a reaction to natural developments in business and business training. Design thinking methodologies are an important step toward implementing more unconventional instructional techniques in business school. The goal is that they will be interim, eventually laying grounds to more innovative and humane instructional and creative approaches.



Figure 7: Taxonomy of Design Thinking and Management Training. Source: Author Compilation

DISCUSSION AND FUTURE SCOPE

Many design thinking and innovative programmes have been implemented all around the world since the first entrepreneurship and innovation curricula which was conducted at Harvard University in 1947. Nonetheless, there is much disagreement on the scope, aims, and tactics most helpful in creating a creative mindset (Daniel, 2016). Although applying design thinking to build a learner-centred training experiences can not only inspire and influence learners/participants, but also to transform participants. Thinking via design to construct a grounded and innovative training and curriculum provides

significant approaches to re- envision and renew management training's promise. Even though design thinking experience has a strong role in re-shaping and strengthening individual and institutional training and learning, there still lies further possibility to rejuvenate academics and enhance the personal and collective competence. A design thinking based empirically tested course for management training is the call of the instant future to create an edge in creative value adding development of learners. Although there has been design thinking- based interventions in healthcare, tourism, engineering training institutions, similar interventions need to be explored in a management training institution

to access the effect on student learning and performance (Daniel et al., 2017). Through exploration of literature, a resultant curriculum must be modified and scrutinized using focus group methodology in the management context (Badwan et al., 2018). Furthermore, future academics may focus more on incorporating more empirical methodologies, hybrid methods, and econometric/statistical tools to improve the precision in design thinking. To conclude, even though there has been significant progress in theory development, there is insufficient progress in the creation and implementation of diverse training curricula and training ideas connected to design thinking. We believe that the following broad research questions may aid in advancing the knowledge in this field.

Q.1 How might training-knowledge be imparted and acquired in this new technological and creative era?

Q.2. How to train employees to become design thinkers?

Q.3 How might Design Thinking approaches be integrated in pragmatic management training?

Q.4. How can managers be trained to understand, adopt, and blend the designers' style of thinking with their regular analytical, critical, and managerial thinking?

IMPLICATIONS

This article contends that the dynamics confronting business schools necessitate innovations that go far beyond managerialism. The design thinking approach is advocated as a tool for reshaping how knowledge is created and implemented by embracing creativity, divergent thinking, critical thought, and human

engagement. The intended effect is a recast of knowledge framework of acquisition at management and business training schools such that learning is an innovative, collaboratively driven, continuous activity fostered by an intertwined design-business curriculum.

CONCLUSION AND LIMITATIONS

Our review has shown that design thinking in the field of management training research is an active and growing area of enquiry that has yielded numerous interesting and intriguing findings. There is plausible theoretical and empirical evidence demonstrating that design thinking is an important variable that can enhance or hinder workplace creativity and innovation through appropriate training and development interventions. The paper presents theoretical implication for future researchers to address the potential, opportunities, and challenges of implementing design thinking into management training in the context of VUCA and technological world. Academicians can engage in active curricula development in business learning and innovation via design thinking.

As the field is at an evolving stage, we have attempted a niche review, yet this review is not free of limitation, the major limitation being that the database used for this study is Scopus only. However, a comparison of bibliometric dataset from the Web of Science (WoS), Google Scholar and Scopus, reported that Scopus database gives 20% greater coverage in comparison to WoS database (Falagas et al., 2008; Zupic & Čater, 2015); also in studies earlier that the output generated by Google database provides inadequate dataset for the

analysis (de Battisti & Salini, 2013)) to aid the export of a document set with cited references (Zupic & Čater, 2015). SSCI (WOS) the cited reference dataset only consists of details about the first authors which signifies that the efforts of other authors may be undervalued. Further, the SSCI's coverage of journals is confined

to journals with an accredited impact factor. Because it requires a while for fresh journals to be incorporated in the SSCI, data from recently launched publications may be omitted (Zupic & Čater, 2015). Future researchers can employ more databases to contribute to advance studies in the field.

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DISCOVERING RELATIONSHIP BETWEEN SOCIAL MEDIA USAGE AND CYBERSECURITY AWARENESS: AN ASSOCIATION MINING ANALYSIS

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ABSTRACT

The term cyber security pertains to the protection of computer systems, networks, devices, data, and other related entities from potential threats, hazards, or assaults. The level of awareness of cyber security pertains to the extent to which a user possesses knowledge regarding the potential threats that may compromise the security of their network. In contemporary times, the utilization of social media platforms has witnessed a significant surge, thereby raising apprehensions regarding the safety of online activities and the perpetration of cyber offenses. The aforementioned circumstance necessitates the implementation of cyber security measures in conjunction with the cultivation of a positive digital social environment. Despite the convenience of accessing information from any location, there exists a potential risk of unauthorized disclosure of personal data to unintended recipients. Despite the prevalence of cybercrime as a significant threat to individuals, a considerable number of individuals remain unaware of its existence.

Despite the fact that security is a subject that is addressed in distinct modules within numerous general computer science programs, it remains uncertain whether the implementation of cyber security measures is necessary. The objective of this research is to examine the correlation between the utilization of social media platforms and the level of consciousness regarding cybercrimes among individuals. The research employed the Apriori algorithm to detect associations, and the findings indicated robust associations among various variables pertaining to knowledge of cyber security. The statistical significance of the associations was evaluated through the utilization of three metrics, namely confidence, lift, and leverage. The results of the study could be utilized to enhance the knowledge of social media users regarding cyber security and emphasize the significance of staying up-to-date with cybercrimes and safeguarding oneself while utilizing social media platforms.

Keywords: Cyber security, social media, social media sites, cyber-attacks, Cybercrime, Association mining, apriori

INTRODUCTION

Today internet has captured the entire world in its web. From smallest thing to the global news everything is now available on internet. Its has taken over the encyclopaedia's which people used to refer sometimes back. Not only this it has left behind the era of postcards or letters and switch to modern period ways of communication which are namely Instagram, Facebook, Telegram, WhatsApp and so on.

But this step towards modernization also has some loop holes i.e., Cyber threat. Every year there are several cases of internet frauds, malware, scam, virus, spyware, ransomware, phishing and insider threats. This arises the need of cyber security along with healthy social life. Cybersecurity refers to preserving the security, confidentiality, and accessibility of computing resources that are either owned by a company or connected to the network of another business. (Kaur & Ramkumar, 2022) Cyber refers to everything using computers, particularly the internet, and security is centred around being safe from harm or threat. In general, cyber security refers to safeguarding against threat, danger, or attack any computer, network, system, data, or device. The level of a user's knowledge of the threats to their network is referred to as cybersecurity awareness.

Depending on the level of technological development and crimes in each nation, distinct obstacles to cyber security exist. protection against cybercrime covers both public and private protection for the nation. The most prevalent types of cybercrime stem from accessing accounts on social networks and bank account information.

Although everyone is now extremely concerned about the risk of cybercrime, many

people haven't even heard of it. The practise of displaying personal information on social networking sites has become the primary method used by hackers and scammers to obtain personal information. In spite of the fact that security is covered in isolated modules in many general computing science degrees, the need for active implementation of the cyber security method is still not evident. (English & Maguire, 2023)

This study primarily examines the level of knowledge that people of all ages have concerning cybercrime and cyber security. 159 replies to a questionnaire distributed to the group are gathered for this.

LITERATURE REVIEW

(Rosanne English and Joseph Maguire, 2023) In this study, the authors provide a method for investigating the expectations of learners of online Safety courses at two institutions in the United Kingdom. The intention is to attract attention towards the issues raised by students so that curricula can be changed to better address their needs. The goal of this paper was to make sure that students gain a grasp of fundamental cyber security ideas so they can support workplace security procedures. In order to achieve various accreditation standards, it is also important to make sure that persons who desire to pursue careers in security are appropriately prepared by developing comprehension of more difficult and abstract areas of cyber security. Furthermore, it's important to manage the expectations and perceptions that students frequently already have.

(Thilini B. G. Herath, Prashant Khanna and Monjur Ahmed, 2022) According to

the study, there are numerous cyber threats that can affect users of social media sites including lost productivity, cyberbullying, cyberstalking, stolen identity, social networking stress, erratic branding, image damage, security breaches, worms, network outages, malware, and unauthorized possession of social media accounts. The study's other conclusions include the possibility that demographic parameters such as age, gender, and educational attainment may not always have a significant impact on internet users' cyber awareness.

(Diptiben Ghelani, 2022) This study examined a number of subjects, such as information security and locales where safety planning is likely to be addressed, including military sources. Nine security measures have been noted. The usage of various security techniques in organisations is investigated using the qualitative focus group method. Security officers from eight different companies were asked to explain their organisations' security policies in focus groups. The results show that many businesses employ a preventive strategy to maintain the availability of IT services. On an operational level, a few of the other techniques were applied to assist the preventative plan. Additionally, the papers analysed take an IT-based approach to cybersecurity rather than just a management-based one. A management perspective should assist organisations in properly implementing new organisational practises and change management procedures. This study can be used by future research as a foundation in resolving industry investigations and advancing the current state of the art.

(Jagpreet Kaur, K.R. Ramkumar, 2021) The major goal is to give scholars a glimpse of

the intriguing developments and difficulties that cybersecurity presents. The most popular approaches and techniques for dealing with security-related issues, their difficulties, and new technologies like computer science and quantum physics are all covered in detail. This comprehensive overview of cybersecurity provides a way for fresh researchers to continue the process of enhancing this field with cutting-edge methods for potential applications. Although there is a dearth of polynomial-based encryption in the literature, a future wave of security algorithms may be based on them. We discovered that adding polynomials to the spectrum of security methods has a very broad application.

(Talal Alharbi and Asifa Tassaddiq, 2021) The study's objective was to examine and assess graduates' levels of awareness of security and user interaction. Academic institutions need information security because most users don't understand the fundamentals of cyber security or how to safeguard their gadgets from viruses, Trojan horses, scams, etc. Responses were collected from 576 college students to an online survey questionnaire. The snowball sample method was followed to increase the sample length. It is assessed that the behaviour of people even in the presence of a good level of awareness is the main obstacle to overcome in managing cyber security threats and challenges. This paper specifically focuses on level of awareness and predictors: use of security tools, phishing, cryptology, browser security, social networking, and cyber security knowledge

(Abdulaziz Alzubaidi, 2021) This study aims to assess Saudi Arabia's current level of internet safety awareness in terms of cyber-security procedures, awareness level, and incident reporting. With

regard to cybercrime activities, this study offered a comprehensive review of the present internet safety data from a number of people from various Saudi origins, age groups, areas, and genders while also considering the rise in internet users since 2018. It also outlined the rationale for choosing TAM being an approach over others. It has been found that the model based on TAM is more significant than the UTAUT model. UTAUT model focuses on the demographical elements of the respondents like age, gender schooling, and so on in addition to expertise and information associated with the cyber services. Therefore, it is concluded that TAM model is found to be highly significant than that of UTAUT model in case of current research study.

(Yuchong Li, Qinghui Liu, 2021) This study's objective is to assess and analyse the standard advancements made in the area of cyber safety as well as to evaluate the challenges, limitations, and advantages of the suggested solutions. Furthermore, rising trends and modern-day developments of cyber safety and safety threats and provocations are provided in this paper. The concept of security, the omission of the geographical component of cyberthreats, and the degree of exposures posed by cyberthreats can all be used to analyse the occurrence of power dissipation.

(Moti Zwilling, Dušan Lesjak, Fatih Cetin, Hamdullah Nejat Basim, Galit Klien, Wiukasz Wiechetek, 2020) The aim of this research is on facts associated with cyber security awareness, expertise and behaviour. The centre of attention was on a comparative technique to assess cultural variations in cyber security awareness, expertise and behaviour. Additionally, the findings indicates that higher cyber knowledge is attached

to the extent of cyber awareness, beyond the variations in respondent country or gender and cyber awareness is attached to safety tools. The end result indicates that the variables did no longer show multicollinearity. It is observed that all the nations confirmed negative but significant correlation.

(Pieter Potgieter, 2019) The purpose of this paper is that pupil's shortfall to interact with cyber security awareness initiative. He additionally advised that educational institutions can make a contribution to unfold awareness amongst college students via presenting Cyber safety awareness material. The responses were collected from 43 students enrolled for the computer security subject at central college of technology unfastened nation, were approached to take part in the research. The end results indicated that the uses of those platforms via the respondents were restricted. However, Facebook, YouTube, Websites and e-mails were the most popular media according to the results.

(Rohit, Anvesh Babu, Ranjith Reddy, 2019) The cyber-terrorism ought to make institutions to lose billions of bucks within the area of companies. This study outline the elements of cyber terrorism and incentive. Case studies associated with cyber protection also are lay out in this paper. A few solutions associated with cyber protection and cyber terrorism also are described in it. This study attempts to bring together all available information on cybercrime, provide historical context, and generate reports based on the data analysis of various attacks that have been widely reported over the past five years. In the next years, cybercrime has the potential to cause significant harm in the information age. The experts have calculated an approximate loss of nearly 6 trillion

dollars. Therefore, there is a very bright future for those who deal with cybercrime-related issues and put in place all necessary security measures.

(K. Senthilkumar and Sathishkumar Easwaramoorthy, 2017) By focusing on numerous online security threats, the study's main objective is to monitor undergraduates in Tamil Nadu's awareness of cyber safety. This poll investigates the degree of security awareness among university students, and some advice is provided to address these issues. This study indicates that the college students in Tamil Nadu are having above common degree of attention on Cyber associated risk issues that can assist them to shield themselves from the cyber-assaults. Cyber security attention amongst the university students in Tamil Nadu is analysed by means of thinking about distinctive security problems that are e-mail phishing, password strength, hostile codes and so on. The cyber security recognition amongst university students in Tamil Nadu is measured as 69.45% from both males and females.

(Y. POORNIMA, Y. NAVEENA, Mr.V.HARSHA VARDHAN, 2017) Cyber protection prevention require extra heed to solve difficult long-time period issues regarding layout, incentives, consensus, and environment. In this study, the control of Cyber protection risks, government function and long-term issues are talk through. The cyberspace is a crucial area for massive number of terrorists to assault on influential data infrastructure. The present legal guidelines are insufficient to halt the cybercrime and, as a result urging a heed to adjust the prevailing legal guidelines via which those activities may be placed on a test. As a consequence, it calls for a collaboration of countries to work collectively and minimize

the ever developing threats and danger at an attainable stage. The department of homeland security (DHS) is the primary federal attention of information sharing for civilian systems via its national Cyber security and Communications Integration Centre (NCCIC). The department of Justice (DOJ) is the lead corporation for enforcement of applicable legal guidelines.

(Samaher Al-Janabi and Ibrahim Al-Shourbaji, 2016) The point of interest of this research is to examine the data on security awareness amongst educational researchers, students and employee in academic surroundings within the centre East. Additionally, to apprehend the extent of awareness of information security, its related threat and effect at the organization. 760 which include academic Star, researchers, undergraduate students and employees. The questionnaire was made to obtain the level of cyber security and awareness for the targeted participants groups. This research gave a critical pointer approximately the extent of information safety attention in the EE in connection with information safety attention as well. therefore, EE's want for information safety awareness may be within the form of a set of protection measures and suggestions to fix their sensitive records and to make sure that information are stored safely in addition to boom the attention stage.

(Jigar Shah, 2016) This study seeks to identify the solutions to troubling questions like, "Is the citizen actually aware that he or she is are at risk to various cybercrimes?"; "If person is conscious, to what extent?"; and, "If not aware of online crimes, what steps can be embraced in order to make residents more aware and updated." A conceptual explanation of how to uphold and implement awareness campaigns among internet

users regarding cybercrimes was also advised by this study. This study thus demonstrates that web users in Anand are not fully informed about current cybercrimes and cyber security. 100 teenage internet users were surveyed on their knowledge of cybercrimes. No matter the safety precautions taken, if a person does not know how to handle the personal information, they give online or in public spaces, they run the risk of being taken advantage of. Thus, the experts in the interview insisted on the role of government in initiate proper mechanisms to build and coach ethical hackers for a holistic approach of cyber security.

(G. NIKHITA REDDY, G.J. UGANDER, 2014) This research particularly specializes in provocation confronted via cyber safety in the today's technology. It additionally specializes in the cyber protection strategies, ethics and the traits that are converting the face of cyber safety. pc protection is a huge subject matter that is turning into greater dominant due to the fact the society is turning into fairly interconnected, with networks being used to deliver out vital transactions.

(Deepa.T.P., 2014) According to an assessment by the government's Ministry of Information Technology, India would require five lac cyber protection executives by 2015 in order to keep up with its quickly expanding online economy. Over 2 lakh new employees are anticipated to be hired in the financial sector alone, with the remaining 3 lakh to be hired in the telecom, utility, power, fuel & gas, airline, and government sectors. The statistics of this research ensures that India as a fast-growing country especially in the field of information technologies and E-commerce has a high alert for Security for its online channels to monitor

over frauds and financial losses. This paper also talks about counteroffering, economic crimes, money laundering, hacking, internet fraud, etc

(Noluxolo Kortjan, 2013) The key aim of this research was to advise web safety attention along with academic structure for SA in order to help in developing a cyber-safety lifestyle in SA amongst all of its users of the net. Moreover, to perceive the position of attention and academics in a Cyber safety lifestyle and to assess the tasks that a few advanced nations have in area for cyber safety attention and training.

(Priti Saxena, Bina Kotiyal, R H Goudar, 2012) The attribute for cyber-protection are era, operations and attention, education and training. This research emphasis on the problems associated with cyber-safety in India and additionally provides numerous techniques to convey attention at founder tiers in academic system. as a result, there may be a heed of cyber safety curriculum inside the destiny in order to assist in growing the cyber protection knowledge in the teenagers and eventually the IT zone gets greater profound, securely professional experts no longer most effective within the security zone however additionally within each quarter, as a way to improving the communication, the mind compatibility abilities of the personnel and the employers.

OBJECTIVE OF STUDY

The objective of the study is to examine the existence of a relationship between the use of social media platforms and awareness towards cybercrimes. The study aims to identify associations between the frequency of using social media platforms and awareness towards cybercrimes among individuals who frequently

use social media. The study also seeks to determine the level of cyber-security knowledge while using social media platforms. To achieve this, the researchers used the Apriori algorithm using Weka tool to identify associations among the variables.

METHODOLOGY

Al-Masalha, Hnaif, & Kanan (2020) and Arpaci & Aslan (2022) conducted research that emphasized the relationship between social media usage and awareness of cybercrime, indicating a necessity to explore these connections. In order to accomplish this objective, the study utilized the apriori algorithm to examine a primary dataset consisting of 159

participants. The adequacy of the sample size in the study was determined based on the commonly accepted guideline of obtaining a minimum of 100 responses. The survey instrument employed in the research consisted of preliminary inquiries aimed at screening out participants who exhibit negligible or sporadic utilization of social media platforms. The participants were requested to indicate the social media platforms on which they possess accounts and the frequency at which they utilize them. According to the statistical data released by Statista in 2022, Facebook, Instagram, and YouTube were identified as the foremost social media platforms in India. Figure 1.1 illustrates the proportion of traffic directed towards the aforementioned platforms.

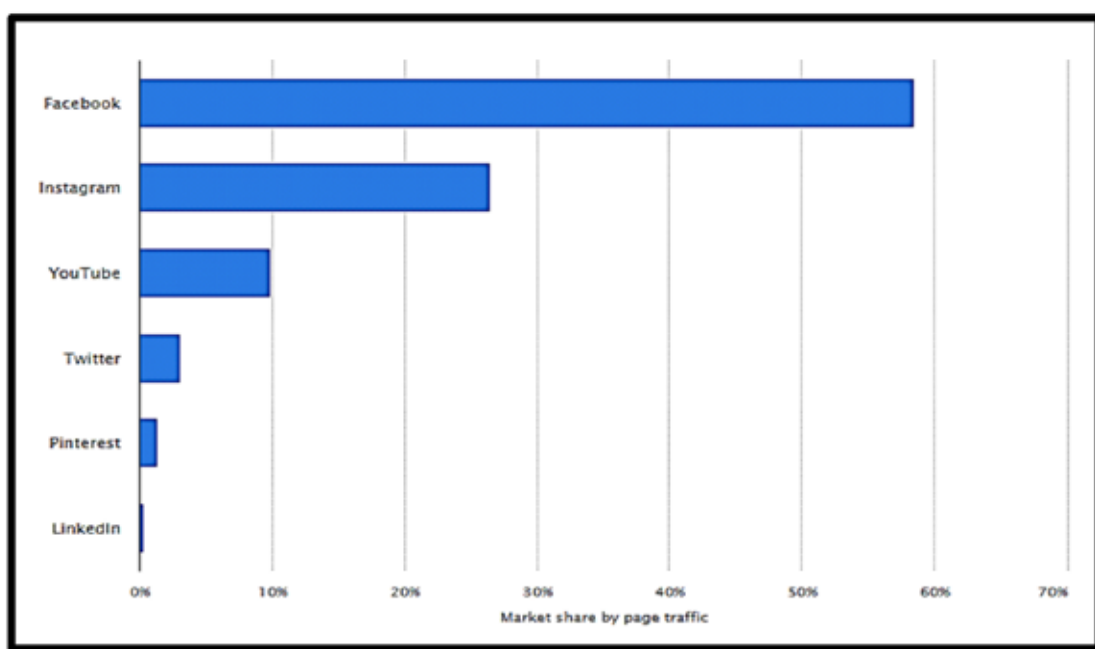


Fig. 1.1. Leading social media sites across India 2022.

Source: <https://www.statista.com/statistics/1115648/india-leading-social-media-sites-by-page-traffic/>

The research employed a 5-point Likert scale to assess the frequency of utilization of social media platforms. The scale utilized a range of values, with “Never used” assigned a score of 1 and “Always used” assigned a score of 5. Participants who reported using social media either occasionally, frequently, or always were deemed eligible to participate in the subsequent survey that aimed to assess their knowledge of cybercrimes in relation to social media platforms. The survey utilized a 5-point Likert scale to evaluate various factors associated with cyber security knowledge. These factors included but were not limited to awareness of cyber security, comprehension of diverse forms of cyber-attacks, familiarity with security tools, understanding of the consequences of cybercrime, knowledge of regulations and guidelines pertaining to cyber security and cybercrime, and technical proficiency. The dataset was gathered via the distribution of a

questionnaire through social media platforms and email. Respondents were given a one-month period to participate.

DATA ANALYSIS

Association mining is a data analysis technique used to identify patterns and relationships among variables in a dataset. In this case, the dataset consists of responses from 159 individuals regarding their knowledge of cyber-security and related topics. Weka is a popular data mining software used to analyze such datasets. The output of association mining in Weka is a set of rules that indicate the strength of the association between variables in the dataset. These rules are expressed in terms of their confidence, lift, and leverage.

In the results presented, three rules have been generated that indicate a strong association between different variables related to cyber-security knowledge.

Association Rule	Confidence	Lift	Leverage	Conv.
{I know how to use security tools at various social media platform= Strongly Agree} ^ { I am aware about impacts of cybercrime = Strongly Agree} =>{ I am aware about different means of cyberattack like phishing, fraud, hacking, etc=Strongly Agree}	1	4.97	0.09	14.38
{I am aware about different means of cyberattack like phishing, fraud, hacking, etc=Neutral} ^ { I am aware about impacts of cybercrime = =Neutral } => { Rate yourself on your technological knowledge. =Neutral }	1	2.41	0.06	9.94
{I am aware about different means of cyberattack like phishing, fraud, hacking, etc=Strongly Agree} ^ { I am aware about impacts of cybercrime. (The use of a computer as an instrument to further illegal ends, such as committing fraud, trafficking in child pornography and intellectual property, stealing identities, or violating privacy.) =Strongly Agree} => {I know how to use security tools at various social media platform. =Strongly Agree}	0.9	3.77	0.08	5.07

DISCUSSION

The evaluation of the importance of rules in association mining is commonly assessed through three metrics, namely confidence, lift, and leverage. The confidence metric quantifies the ratio of occurrences within the dataset in which the antecedent of a given rule, situated on the left-hand side, implies the consequent of the same rule, located on the right-hand side. Stated differently, it quantifies the frequency with which the rule holds true for the given dataset. The confidence interval lies within the bounds of 0 and 1, where a score of 1 signifies the rule's infallibility. The lift metric quantifies the strength of the relationship between the antecedent and consequent of a rule, while accounting for the occurrence frequency of each item in the dataset. The term "support" refers to the frequency of occurrence of a particular itemset in a dataset. In the context of association rule mining, the support of a rule is the proportion of transactions in the dataset that contain both the antecedent and consequent of the rule. The lift of a rule is a measure of the degree of dependence between the antecedent and consequent of the rule, and is defined as the ratio of the observed support of the rule to the expected support if the antecedent and consequent were independent. When the lift value is greater than 1, it signifies a positive correlation between the variables. Conversely, a lift value less than 1 indicates a negative correlation. The concept of leverage pertains to the quantification of the dissimilarity between the observed support of a given rule and the anticipated support that would have been obtained if the antecedent and consequent were not related. The degree of dependence between the antecedent and consequent is a metric that can be used to assess

their association strength (Witten, Frank, & Hall, 2016; Tan, Steinbach, & Kumar, 2013; Agrawal, Imielinski, & Swami, 1993). A high value of this metric indicates a strong association between the two variables.

Collectively, these three metrics aid in evaluating the importance of the regulations produced by association mining. Typically, rules that exhibit elevated levels of confidence, lift, and leverage are deemed to be more consequential and substantial, as they signify a robust correlation between the variables. The obtained rules are of significant value as they offer valuable insights into the interdependent relationships among variables. These rules can be utilized to devise effective strategies aimed at enhancing the level of cybersecurity awareness among individuals.

According to Rule 1, individuals who express a high level of agreement regarding their proficiency in utilizing security tools across multiple social media platforms and their comprehension of the consequences of cybercrime are also inclined to possess knowledge regarding diverse methods of cyber-attacks such as hacking, phishing, and fraud. The confidence level of the rule is 1, indicating that all participants who express a strong level of agreement regarding the initial two variables also exhibit agreement concerning the third variable. The lift coefficient of 4.97 denotes a robust correlation between the variables, while the conviviality coefficient of 14.38 implies that the rule is exceedingly significant.

According to Rule 2, individuals who hold a neutral stance regarding their familiarity with various forms of cyber-attacks and the consequences of cybercrime are also inclined to evaluate their technological expertise as neutral. The aforementioned rule exhibits a confidence level of 1, indicating that respondents who express

a neutral stance towards the first two variables also hold a neutral stance towards the third variable. The lift value of 2.41 denotes a moderate association between the variables, while the conv value of 9.94 indicates the statistical significance of the rule.

According to Rule 3, individuals who exhibit a high level of agreement regarding their knowledge of diverse forms of cyber-attacks and the consequences of cybercrime are more inclined to possess proficiency in utilizing security tools across multiple social media platforms. The aforementioned regulation exhibits a confidence level of 0.9, indicating that 18 out of 20 participants who express a strong agreement regarding the initial two variables also demonstrate concurrence concerning the third variable. The lift value of 3.77 denotes a moderate association between the variables, while the conv value of 5.07 indicates the rule's significance.

To summarize, the aforementioned regulations propose that there exist robust correlations among the variables pertaining to cyber-security knowledge among the participants in the given dataset. The regulations may be utilized to acquire comprehension regarding the variables that impact one's knowledge of cyber-security and to formulate tactics for enhancing cyber-security consciousness among individuals.

CONCLUSION

Technology can be considered a double-edged sword. The process of interacting, connecting, or exchanging data with other systems or devices over the internet has become significantly streamlined. The act of disseminating data to external systems carries with it the inherent risk of unauthorized access by third parties. The

potentiality of cybercrime, which encompasses unauthorized online activities such as fraudulent schemes, hacking, malware dissemination, ransomware attacks, phishing, and the like. The term cybersecurity pertains to the protection of computer systems, networks, devices, data, and other related entities against potential threats, hazards, or attacks. The degree of an individual's comprehension regarding potential hazards to their network is commonly known as cybersecurity awareness.

The objective of the research paper was to ascertain the correlation between the utilization of social media platforms and the level of consciousness regarding cybercrimes. The research utilized the Apriori algorithm to analyze the main dataset consisting of 159 participants. The research revealed a robust correlation among various factors pertaining to cyber-security literacy. The Weka software's association mining technique produced three rules that demonstrate a robust correlation among various variables pertaining to knowledge of cyber-security. The metrics of confidence, lift, and leverage were utilized to measure the significance of these rules. To conclude, the research emphasizes the necessity for individuals to possess knowledge regarding cyber security when utilizing social media platforms. The findings indicate that possessing expertise in security tools, being cognizant of diverse modes of cyber-attacks, and comprehending the ramifications of cybercrime are crucial in augmenting an individual's awareness of cyber security. The results of this investigation have the potential to assist both individuals and organizations in devising efficacious tactics to alleviate the hazards associated with cybercrime.

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INTEGRATING PHILOSOPHY IN MODERN MANAGEMENT FOR EXCELLENCE AND PRODUCTIVITY: CASES AND REFLECTIONS

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ABSTRACT

The present paper is a part of ongoing research of the authors in integrating Philosophy into managerial practices for creating virtuous employee engagement and organizational excellence. With the changing scenario and typical work styles, philosophy has a significant role in creating positive leadership who practices compassion, love, and truth for creating inclusive organizations. In this paper, the authors have aimed to give a background of the relevance of Quakers philosophy to managerial practices by citing examples through the specific case of Cadbury Schweppes and other brief reflections across the globe. The current article claims a great deal to be learned about business practices by reflecting on how the Friends, mostly forgotten and disregarded in the foundation narratives of management studies, were structured and how they successfully managed their businesses. The authors also consider multiple implications that management studies may derive from researching the Quakers' management style in the future. Consequently, the authors

suggest that now would be the wise moment to reclaim truthfulness and behave ethically and constructively.

Keywords: Quakers Philosophy • Management Practice • Cadbury • Community Service • Friends • Social Capital

INTRODUCTION

The pre-eminent ethical crimes of the recent past have initiated the pertinence of incorporating values into the corporate world, besides compelling the world to question the paucity of values on the part of organizations' leaders. Contemporary firms are now more concerned with corporate ethics, codes of conduct, ethics charters, corporate citizenship, governance practices, truthfulness, and transparency. There is no denying that running businesses is a double-edged sword for several people, not just because of the need to generate profit but also because society demand - even requires - social responsibility and ethical behavior from the business community (Miranda & Mahajan, 2010). These considerations have significantly

and decisively contributed to the notion that philosophy is relevant to management. However, the Philosophy for management (which is not just about business ethics) is the cornerstone of problem-solving and performance improvement, which should be distinct from the philosophy of management (Ledoux, 2012). At work, philosophy is a rational activity that involves logic, rhetoric, and other techniques. Geoffrey Klempner (2009), a renowned philosopher, claimed that it is impossible to discover philosophy in isolation. Concerning the issue, Pierre Gurdjian (2014) asserted that the world of action and philosophy are complementary. In the quest for a search for purpose, philosophy offers strategies for navigating the confusion and investigating how to give our conduct significance.

Philosophy's significant contribution to management lies in enlightening even the most obscured portion of the organization's world rather than providing a more "appropriate" and "efficient" world of representations (Ledoux, 2012). The fact that philosophy penetrates the most fundamental level of thought, which is the nature of life itself, may assist managers in shining light into the dark corners of the organization's reality (Whiteley & Whiteley, 2006). In this manner, philosophical understanding may compel managers to reflect on the quality of their knowledge of self-reflexivity and critical reflexivity. The current paper contends that philosophy should explain the process's conduct and management besides enhancing management practice in the long run by rejecting the desire to be instantly practical. Therefore, the authors have tried to contribute with the help of specific cases and

reflections toward answering the question: Do we tend to assume that virtue and business are fundamentally incompatible? Is it true that they are incongruent? The article intends to revisit the dilemma of morality and business so that it vanishes or becomes more feasible. This study will encompass conceptions of Quakerism to exhibit the historical instances of a few successful 'For-Profit' and 'Non-Profit' corporations that grabbed and complied with morality that takes into account an understanding of the modern world while remaining rooted in the conceptions of morality.

In response to integrating Philosophy into the managerial practices for human excellence and productivity, the authors have attempted to examine and highlight how the Quakers' Business Philosophy has mainly been ignored and disregarded by organization and management's narratives. Educational institutions have systematically divorced their learners from any consciousness of moral imperative by preaching politically influenced amoral ideologies (Ghoshal, 2005), and consequently, poor managerial practices emerge. How and why Quakers relinquished their dominant position in business throughout the 20th century when most enterprises transferred out of Quaker ownership and management is a fascinating element of the Quaker narrative (Burton et al., 2017). The most critical deliberative events were the mid-nineteenth-century corporate legal innovations at the heart of the legal renaissance in commercial activity in the UK and the US. This transformation inevitably decanted the distinctive Quaker spirit out of these organizations as Quakers gradually lost

control and ownership of their enterprises to a new management class, more obsessed with operational productivity and less sympathetic to Quaker welfare and public reform concerns (Kavanagh & Brigham, 2019). However, for most Quaker businesses, incorporation accomplished the anticipated impact in many respects, with many organizations seeing tremendous expansion in the early 20th century. Cadbury, for example, acquired Fry's in 1916, which eventually became British Cocoa & Chocolate in 1919; Rowntree also expanded; by 1987, when Nestlé acquired it, it had 25 plants in nine countries and nearly 33,000 employees. Nevertheless, such economic prosperity masked the decline of the distinctive Quaker mindset and a profound change in Quakers' perspectives about their place in society and the economy.

Quakers considered their business 'service' rather than a religious vocation, with the service motivation counterbalancing the desire to fetch profits. It is incorrect to say that Friends were opposed to profiting; instead, they viewed profiteering as a necessary aspect of a successful business, ultimately for the benefit of God and humanity. In this way, the Quaker narrative is an excellent alternative to the standard management case study, which wraps up the narrative quickly. The authors believe that the Quakers' business principles and practices have been the foundation for their business acumen and examine them through cases and reflections in the face of contemporary discussions in the management literature. The authors acknowledge entirely that the successful Quaker business models persist and flourish even in the contemporary corporate

world but simultaneously try to highlight how managerialism has decanted Quakerism in the post-modern era to some great extent.

Quaker's philosophy is primarily liberal and individualistic because portraying individuals merely as a production vehicle has always been regarded as contradictory to individual uniqueness and charisma. However, this pledge to egalitarianism and individualism has caused strain for Quakers in business from the beginning because they were gravely concerned with the ethics of business income and consistently opposed profiteering through immoral means and financial gains of one at the expense of another (Kavanagh & Brigham, 2016). Despite their backing for individualism, the Quakers' moral system did not rest on rationality and self-interest. Alternatively, they considered that if each person's kindness is adequately expressed, that person's 'inner Light' will reunite the society in fraternity and harmony.

At the same time, managerialism is an organizational ideology and societal framework that prioritizes rationality above emotions to accomplish corporate and management values, characterized by controlling personnel's emotions. Such a perspective violates Kant's categorical imperative: "never treat people as a means." Managerial action, on the other hand, destroys Kant's "universal kingdom of ends." The idea of labor unions did not enthrall Quakers. They fundamentally opposed such a notion for pretty much the same reasons: (a) Unions are collectivist instead of individualist in nature, and (b) trade unions are predicated on the conception that employees' and managers' interests conflict with each other (Kavanagh & Brigham, 2016). The significant wealth

difference between the Quaker employers and employees reflected not just the free market's problems but also an incompatibility between Quakers' belief in fairness and truth.

The current paper begins with a broader description of the Quakers' historical tradition & beliefs, and business philosophy (there has already been much literature about them, most of it by Quakers who were meticulous record-keepers). Here the authors' primary concern is to highlight the Quakers' astonishing commercial and financial success, notably in the 18th and 19th centuries. Later, the paper focuses on demonstrating the specific historical contexts of organizational transformation of 'Cadbury Schweppes' and 'Quaker House,' 'Youth Together,' and 'Burial Ground Project' (Social Organizations) that operated under the outlined Quaker principles. Despite being largely absent from the annals of management philosophy, business and industrial historians acknowledge Quakers' business accomplishments (Kavanagh & Brigham, 2016).

RESEARCH OBJECTIVES

The specific research objectives which are dealt with in this research are as follows:

1. To better integrate Quakers' corporate success narrative into contemporary management and business contexts.
2. To explore distinguishing Quaker beliefs and business practices that provides the basis for their astonishing commercial success.
3. To understand the reasons behind the downfall of Quaker businesses from the late 19th century.
4. To exhibit the historical instances of a few successful 'For-Profit' and 'Non-Profit'

corporations that operated under the outlined Quaker principles.

5. To comprehend the challenging process of theologically-driven organizations striving to achieve social capital base.

THEORETICAL REFERENCE FRAMEWORK

Quakerism

Quakerism - the nonconformist religious movement in 1650s England, during the 'Century of Revolution,' which historians refer to as an era of political turbulence, religious turmoil, and civic upheaval (Kavanagh & Brigham, 2016) - is defined by a set of ethical and moral issues that are peculiar to it. Quakerism, propounded by George Fox (1624-1691), is partly described as a philosophy emphasizing togetherness and the significance and equality of all inputs. Word-of-mouth aided in disseminating Quaker ideas of George Fox and others who emerged in the 1640s and 1650s from the pool of those people seeking Revolution inside the Church of England. Quakerism has been labeled non-doctrinal due to its pluralistic stance and opposition to authoritative interpretations of a Quaker belief system (Pluss, 1995). Broadly, Quakerism is the philosophical ideology of the 'Society of Friends' that opposes war and condemns rituals, a codified creed, and ordained clergy. The First World War (1914-1918) made Friends very conscious of the interaction between war, social harmony, and the capitalistic system. Hence, it prompted them to form War & Social Order Committee in 1915 to investigate social injustice concerns and the conditions that may lead to war. Because of its steadfast dedication to fairness, truth, and

peaceful living, Quakerism attracted individuals from various socio-educational levels.

While Quaker's philosophy is quite diverse, there is still dissimilarity between Quaker behaviors and practices incompatible with Quaker principles and ideals. According to Burton and Sinnicks (2022), Quakerism fits into MacIntyre's concept of tradition, which consists of three components that are particularly pertinent to Quaker corporate ethics: community, compartmentalization, and the critique of manipulative management. These attributes describe Quakerism's individual and societal qualities, as well as the renunciation of the secular dichotomy, which encourages Quakers to dedicate their entire lives under the direction of the Spirit of God.

Quakers have lately concentrated their efforts on reconciliation, humanitarian assistance, and economic reform, expanding on the heritage of Quakers in the 19th and 20th centuries, which saw business as having a compelling social vision. Employee entitlements, pension systems, and subsidized dwellings for employees were granted by Quaker enterprises in the 19th and 20th centuries, during a period when such societal efforts were unusual. Quaker organizations have always strived to benefit larger communities, such as their personnel, workshops, towns, and provinces (Turnbull, 2019), which exemplifies this broader ethical perspective. Quaker business ethics are affected by these egalitarian and social commitments. The dearth of aggressive argument and any method that accentuates differing opinions is a hallmark of the Quaker philosophy. The Quaker method is predicated on the conscious pursuit of harmony. Maclean et al. (2020), cited by Burton and Sinnicks (2022),

rightfully conceived that Quakerism promoted employees' adherence to managerial authority. Management elite would be considered the proper stewards of administrative authority if they could demonstrate adequate humanism and concern for their employees (Maclean et al., 2020).

According to MacIntyre (2011), being humane and practicing humanity go hand-in-hand; this relationship has vanished in the mainstream of modern business. The continuum of inner and outer existence is crucially significant to Quakers, and their adherence to integrity can guard them against the extreme compartmentalization that MacIntyre describes as a significant ailment of modernization (Burton & Sinnicks, 2022). Quakers opposed compartmentalization, often at considerable expense. Many prominent Quaker merchants were imprisoned in early Quaker history for declining to take an oath or remove their hats in the courtroom, signaling an uncompromising dedication to Truth and Equality in all settings.

Work was more than just a vehicle for accumulating wealth for Quakers. Wealth accumulation presumed a moral dimension (Walvin, 1997), demonstrating "truth to the world" (Raistrick, 1953), which is allied to notions of community service that have spurred contemporary deployments of MacIntyrean theory to finance and the conception of stewardship, which is critical to successful management (Potts (2020). Although Quaker firms have been impeached of paternalism in the past (Turnbull, 2019), they were engaged in a historical legacy of corporate philanthropy that encompassed industrialists of all religions in the Victorian period who treated their employees

like family. Joseph Rowntree, for example, gifted a swimming pool and a public park to the city of York. Because the corporation was a trailblazer in adult education and workplace well-being, Rowntree's is valuable to community concerns. Rowntree became one of the first corporations to hire 'welfare officers' (HR managers today) whose responsibility was to ensure the young employees' health, education, and moral integrity. There was also a medical director, periodical medical and dental inspections, and company-wide anti-tobacco and anti-alcohol initiatives. The Rowntrees likewise promoted the education of employees through a network of bookstores, discussion clubs, the Yorkshire philosophical society, and schools. Several Rowntree employees resided at New Earswick, a "model community" created by Joseph Rowntree, which was influenced by Ebenezer Howard's 'garden city' designs. This perspective contrasts sharply with a management philosophy that perceives employees as solely conduits to a predetermined profit agenda.

Contemporary Management Philosophies and Quakerism: An Overlap

The present study asserts that Quakerism also reinforces the contemporaneous ideas of mindfulness, collaboration, and cooperation in management philosophy. Recent attention to mindfulness and its implementation in business appears to have remarkable similarities with Quaker principles. Mindfulness – wisdom-enacted activity (Vu et al., 2018) – is a lifelong process encompassing self-transformation, learning from accumulated experiences, comprising failures (Purser & Millilo, 2015). Mindfulness promotes transformative learning throughout one's lifecycle, portraying consistent,

gradual, and proactive development (Taylor, 2018). This self-transformation process that creates transformational learning is crucial for improving awareness, which may be helpful for managers when addressing complex ethical dilemmas. Using a paradigm of a spiritually oriented reflection of the moral self, Vu & Burton (2020) demonstrated how Buddhist Mindfulness and Quakers' Discernment might enable a process of moral reflexivity and self-transformation. Mindful reflexivity expands the notion of ethical-reflective practice for responsible management by promoting managers' transformational learning (Vu & Burton, 2020). Mindful -reflexivity can encourage a more mindful reflective consciousness and context sensitivity regarding ethical and moral challenges in management learning (Pless et al., 2017). The sorts of ethical business practices connected with Buddhist mindfulness help managers refrain from taking radical stances, such as being extraordinarily logical or utilitarian or even too sympathetic, without considering the circumstances of the ethical challenge (Vu & Burton, 2020).

Collaborative decision-making has been the central idea of a substantial amount of research in management in the contexts of group formation (Hahn et al., 2008), motivation (Vroom, 1995), productivity (Wheelan, 2009), and success (Levi, 2013). In the collaborative performance of a business meeting, Quakers utilize one another as social resources. In essence, Friends' religious experience is a collaborative effort accomplished through the integrated practice of group silence (Steinbock, 2012). The phenomena of stillness in a Friends' Meeting offer the key to comprehending the

puzzling connection between collective physical activity and individual cognition (Steinbock, 2012). Members do not only take advantage of contextual cues that are naturally present; they actively build an environment with contextual cues. Through the collaborative practice of worship, mutual understanding of others' intentions to act similarly is a shared resource made and utilized by those in need. This viewpoint satisfies Bratman's (1992) requirements for shared cooperative action: shared responsiveness, commitment to a collaborative effort, and commitment to cooperation. Whereas the analytic philosophy of action is satisfied with verbal commitments, Quakers acquire mutual support via the coordinated transmission of their bodies in time.

Although Quakerism originated in England and quickly expanded to the American colonies, today's "Religious Society of Friends" is a worldwide congregation with great diversity in its members' philosophical ideas and practices. Some Friends keep a close connection to the Society's Christian origins. In contrast, others opt to include other traditions within their vision of the divine or even renounce believing in any higher force while staying dedicated to ethical living. Therefore, the Quakers in England may differ from those in Philadelphia, Indianapolis, Nairobi, or the Bolivian Andes. Regional differences in worshipping styles are common among American Friends. However, it is not unknown to come across a conservative Friends Church and a liberal unprogrammed Meeting of Quakers in the same town. The American Quaker community, such as Pacific Friends Meeting (PFM), affiliated with Pacific Yearly Meeting, adheres to the unprogrammed style

of Meeting and is located on the Universalist extreme of Christo-centrism (Steinbock, 2012). However, Quakers, irrespective of the multiple branches of Quakerism (Conservative, Pastoral, Evangelical, and Liberal), have four characteristics in common: faith in the potential for receiving communications from God (Inner Light), a dedication to cultivating our spirituality through worship (Quaker Worship), a dedication to practicing spiritual Discernment as a community (corporate Discernment), and a dedication to living as a testimony to the development of virtues (Living Truthfully), Scully (2010).

Early Friends: A Disproportionate Domination

Quakers have an ancient legacy of espousing social justice and participating actively in dispute resolution. Two US presidents, Herbert Hoover, Richard Nixon, and frontiersman Daniel Boone, were Quakers. Frederick Winslow Taylor (1856-1915), whom Bethlehem Steel Corporation hired in 1898 with the explicit intention of bringing more scientific techniques to industrial management, was the descendant of a prominent Philadelphia Quaker family. Mary Parker Follett, "Prophet of Management," and Wroe Alderson, referred to as the "Father of Marketing," were committed Quakers. Another Friend, Joseph Wharton, taught how to govern a corporation and adapt to economic cycles (Baltzell, 1994); he co-founded and was a key stakeholder of Bethlehem Steel Corporation (Copley, 1923). While Quakers may have been overlooked and neglected in organizational management, a more comprehensive scholarship has been documented about them (Kavanagh & Brigham, 2016), describing their engagement in science and

business. Commercially, Quakers were always entrepreneurial and prepared to attempt and use new scientific and technological concepts. This fascination with experimenting prioritizes 'inward sacraments' and the immediate present over rituals, creeds, and sacred texts (Navias, 2012). According to Sir Adrian Cadbury (reporter of Cadbury code 1993, a model that has endured the test of time and has gained international recognition), cited by Miranda & Mahajan (2010), "The remarkable thing is that in 1800 Quakers was only 1 in 500 of the population. Thus, 0.2% of their living population in the country played an important part in the transformation of Britain into an industrial nation" (Cadbury, 2003).

Quakers firmly believed in frugality, austerity, and laboriousness, contributing to Pennsylvania's economic prosperity. During its first two decades of colonial history, Pennsylvania's financial success ranked among the most notable. In addition to contributing to Pennsylvania's success, the Quakers have been at the forefront of several social changes. Pennsylvania Hospital, the first organization in the New World to provide clinical and occupational treatment for the mentally ill, was co-founded by Quakers. Due to their compassion and foresight regarding future psychiatric therapies, Quaker development in the care of the mentally ill was unsurpassed. Quakers considered prison reform and caring for the destitute essential and closest to their hearts. Friends founded the Philadelphia Society for ameliorating the Misery of Public Prisons to improve prisoners' cleanliness, housing, and care. Friends created meetings for sufferings to cater to their own impoverished and widowed. Since the Quaker philosophy of equality is

intrinsically oriented, Friends regard women as equals in the home, school, and meeting house. Their conviction about equality covered race as well; hence, Quakers abhorred slavery and were passionately involved in the struggle to abolish it. The Quakers' unwavering dedication to their ideals binds them to significant social transformations throughout history.

Innovativeness: A Glimpse

Quakers have spawned a surprising and overwhelming variety of botanists, chemists (Raistrick, 1950/1968), entrepreneurs, scientists, intellectuals, and advocates for justice, compassion, and human rights, despite their relatively small numbers. Quaker enterprises were known for their innovation, and their continued financial success was often predicated on creating new technologies and procedures based on cutting-edge scientific thought. Abraham Darby I, who scientifically produced brass and created the first metallurgical laboratory in 1702, produced one of the early advancements. In 1709, Darby I invented the coke-fueled blast furnace, a watershed point in the mechanized Revolution because it allowed for the mass manufacturing of iron, which served as the substance for steam turbines, railroads, and various other 19th-century innovations. Abraham Darby II instituted several other metalworking innovations.

In contrast, Abraham Darby III (1750-1789) began taking a sequence of iterations to ameliorate working conditions at the workplace, circumscribing purchasing farms to produce vegetables throughout times of hardship, getting houses constructed for his employees, and paying a living wage more than the standard (Raistrick, 1953). Allen & Hanburys, another

reflection of Quakers' innovation, was created in (1715) by Welsh Quaker Silvanus Bevan and was prosperous for many years, especially during the nineteenth century. The firm had substantial manufacturing during that time, producing baby food, medicinal pastilles, malt solutions, cod liver oil, and a range of healthcare plus biopharmaceutical products.

Quakers were also pioneering concerning their organizations' managerial and social elements. They were among the first to implement various business initiatives in Marketing, Operations, Finance, Employee Relations, Governance, Accounting, R&D, and Banking (Windsor, 1980). Isaac Reckitt (Quaker Entrepreneur) founded a mill in Boston, a corn company in

Nottingham, and a starch business in 1840 in Hull. Reckitt & Sons developed black lead, laundry blue, domestic polish, and antimicrobials like Dettol and Harpic in the early 1900s.

Quakers' Business Principles

The early Quaker principles contributed significantly to corporate ethics and governance – Uncelebrated – especially the spiritual influence of Quakerism on organizational growth and performance, even with secular discourse. Lamont (2019) ascertained twelve Quaker principles – inspired by the early Society of Friends – which can be implemented to revamp the organizational difficulties of the industrialized world.

Table 1: Quakers' Business Principles.

Stillness	One of the most successful organizational tools which – when applied with integrity and compassion – can inevitably help employees to untangle various problems while carrying with it the same calm that early Friends experienced in the divine.
Silence	Speaking less, listening more, and being at ease with silence all help a firm achieve a greater degree of discernment.
Turn within to solve the problems	Quakers emphasize the necessity of metanoia (a heart change) – an inner transformation. The solution to various predicaments lay in cultivating inner traits, notably spiritual principles such as finding the goodness in people and being willing to pro-actively accept diversity, trust, and cooperate.
Forgiveness	This mindset allows the fortitude to experiment, take risks, make errors, and discover new things, necessary for a successful and creative business.
Respect and Active Care	Creating organizational culture of equality which – contrary to paternalism – respects, values, listens to, involves, empowers and encourages individuals to flourish.
Happiness	Quakers' awareness and perception postulate that happiness and gladness are not reliant on external causes, but on our potential to leverage into our everlasting capability for happiness that exists inside us.

Journaling	Strife begins in the mind, and it is through paying close attention to our minds and ideas – main impetus is to elevate self-awareness - that we may achieve stability to places where there is conflict.
Head Above the Parapet	A kind devotion to duty builds up to the potential of moving out of the old and into the new, as does the desire to stand up and be counted, to become sensitive and to quit concealing that the traditional methods are viable.
The little humdrum things matter	The mindfulness revolution is gaining traction, with giant corporations like Google encouraging employees to focus on the minor aspects in life.
Peace	Resolving conflicts truthfully and innovatively relieves enterprises of the numerous annoyances and disputes, condemnations and animosities that drive a culture of complaint and adjudication. This is a far more efficient manner of cooperating that involves no technology or large investments, only the instruments of peacemaking.
Simplicity	Quakers keep a keen watch on each other to avoid hedonistic habits, affluent lifestyles, and the shackles of vogue. Such freedom is the prerequisite for vigor in any endeavor, whether spiritual, philosophical, or material.
Vision	Quakers' vision has always spanned geographical, cultural, and religious borders. Without regard to belief or doctrine, Quakers seek to recognize the Spirit—often referred to as "that of God."

Source: Lamont (2019) provided the twelve Business Principles of Quakers. Adapting from “Transforming Contemporary Businesses: The Impact of Quaker Principles and Insights on Business in a Volatile World,” by Lamont (2019), Quakers, Business and Corporate Responsibility (pp. 9-23).

Revisiting Quakers' Commercial and Social Success

In the 18th and 19th centuries, Quakers, with a reputation for ethics and integrity, were instrumental in creating a wide range of businesses, with banking and confectionery being two of the most prominent. These industries developed on a foundation of biblical ideas and practices, which paid off in terms of profitability and social responsibility. Quaker banks like Barclays and Lloyds proliferated throughout the 18th century because people trusted Quakers with their funds, and as

resultantly, there were 74 Quaker-Owned Banks by 1826. Not surprisingly, considering the close ties among Quakers, Quaker banks frequently merged with or took over other Quaker banks. For example, Barclays Bank dates back to 1896, when 20 small Quaker-run banks amalgamated to establish Barclay & Co. (Kavanagh & Brigham, 2016). Since the 1660s, membership in the Religious Society of Friends has echoed business honesty. To avert over-indebtedness and insolvency, Quaker communities monitored local Quaker companies, and to promote justice, Quakers also governed master-servant

and employer-employee interactions at the workplace. Friends were instructed as early as 1688, through the Advice System, that no one should enter into the worldly business surpassing their capacity to handle it honestly and with repute (Society of Friends, 1802).

The Quaker bureaucratic system, particularly the business meetings, was excellent in assuring that Quakers proactively adhered to and preserved their business principles. Many historic Quaker businesses continue to operate, including, but unconfined to the Cadbury, Rowntree (Now Nestle), Fry's, Clarks, Western Union, Barclays, Lloyds Banks, Guernsey, Allen and Hanbury, Bryant and May, Huntley and Palmers, Carr's Biscuits, and financial organizations like 'Friends Life,' formerly 'Friends Provident. 'Quakers and Business' (Q&B) is a group of Quakers and non-Quakers who work to promote Quaker beliefs. Paul Whitehouse (the group's treasurer) asserted that Q&B got established to encourage Quakers in business to come together and facilitate the Spirit of cooperation, as well as to bring in those seeking assistance for an inherently ethical business approach who may find the Quaker helpful approach. Although some businesses may not be considered Quakers, members of the Friend's Society were instrumental in establishing significant corporations such as IBM, Price Waterhouse, Sony, and J. Walter Thompson.

However, there were also unsuccessful Quaker enterprises and banks; the successes are the ones that everyone remembers. Anne van Staveren, a representative for Quakers in the United Kingdom, asserted that there are only a few notable Quaker industrialists now as before, like Abraham Darby, Joseph Rowntree, and

George Cadbury, ever since the great Quaker family enterprises got acquired. Nonetheless, Quakers are involved in public life; for instance, via the Rowntree Trusts, Quakers fight for social reform. Quakers participated in establishing non-governmental groups such as 'Greenpeace,' 'Oxfam,' 'Amnesty International,' 'Anti-Slavery International,' 'Campaign Against Arms Trade, and 'Circles of Support and Accountability.'

Friends got recognition for their dense co-religionist industrial networks (Burton & Turnbull, 2019) and continual organizational and managerial innovations (Maclean et al., 2020). In contemplation of creating a conditional shift in philosophical leanings and understanding and a desire to perceive the evolving unification of the group, Quakers integrated the fundamental virtue of epistemological humility. While early Quakers, namely George Cadbury, Joseph Rowntree, and Abraham Darby, previously believed that their success was part of the reason they integrated their personal beliefs – whatever shape of philosophy it took – into their business procedures (Miranda & Mahajan, 2010). Practitioners still appreciate those beliefs to date. The methodology by which Quakers hold meetings for business sanctions widespread attention concerning the possible implications as a cooperative and collaborative decision-making method in today's rapidly evolving business organizations (Burton & Turnbull, 2019).

Corporate Discernment: Quaker Business Method (QBM)

The current study contends that the "Quaker Business Method" (Sheeran, 1983) - a terminology used to describe Friends' decision-making processes, can be integrated into current management and organizational practices. QBM,

described as a collaborative, non-hierarchical, transparent, and uncompetitive decision-making style, is the most intriguing feature of Friends' more comprehensive approach to corporate administration (Velayutham, 2013). The Quaker Business Method (QBM) has two primary dimensions: (a) a spiritual component outlined in early Friends' philosophy – where each person can have a close, intimate relationship with God (Karkkainen, 2021), and (b) a decision-making process that has been practiced, validated and perfected by Friends for over 350 long years (Anderson, 2006). Despite its characteristic style, Quaker Meeting for Business participants merely needs spirituality and the correct mindset to engage (Grace, 2006). Members must shift their focus to the Spirit as the supreme authority in decision-making to accomplish the spiritual dimension of QBM in an ego-constrained and respectful manner (Vu & Burton, 2020), which subjugates the functioning of individualistic authority. According to Turnbull (2019), Friends recognize that anybody in the Meeting can sense “the leading” of the Spirit. It will have a significant impact on how Quakers make decisions unitedly in a process known as “corporate discernment,” which leads us nearer to one another, nearer to God, nearer to the Truth, and nearer to understanding what is morally decent to do in the world (Grace 2006). Contemporary Quakers may conceive their internal source of knowledge in various ways: as God, the universe's creator; an inner transcendental energy; or as an atheist conscience (Steinbock, 2012). The principal objective of a Meeting for Business is to achieve unity instead of consensus in its decision-making through corporate Discernment (Sheeran, 1983). However, according to Gentry's (1982)

study of the Quakers' decision-making process, the circumstances that favor the practical application of consensus are listed as follows:

1. A coherent philosophy that can unite the members.
2. The incorporation of Conflict resolution strategies into the organizational structure.
3. Leadership is considerate and responsive.
4. Participants comprehend and value the method.
5. Internal ranking standards for participants align with the group's objectives and values.

Concerning ‘Unity,’ Grace (2000), cited by Turnbull (2019), expressed that “the sense of being led into unity with one another becomes a fundamental mark of the Divine work in the world.” Quaker Discernment seeks to unite various groups, through subjective changes in personal beliefs and understanding, around a path ahead and, while doing so, stimulates ethical reflexivity by subjugating extravagant selfishness (Pless et al., 2017) and fosters self-transformation (Vu & Burton, 2020). Therefore, through practicing Quaker Discernment, each individual can self-reflexively modify his or her stance in connection to other members on any issue(s) via periods of learning that generate a collective new knowledge.

Adopting QBM: Contemporary Challenges

While QBM relies on Spirit to guide unity in decision-making, the authors contend that focusing on the organization's mission and vision also guides unity in a modern organization during the decision-making process. Fierce global competition, rapid technological advancements, and the obsolescence of managerial strategies have compelled organizations to incorporate a clearly

articulated vision statement in organizational practices to emphasize futuristic directions. Vision entails all the connected members endeavoring to attain the desired future position. Vision generalizes change, simplifies decisions making, and facilitates efficient coordination (Fry, 2003). Vision expectedly demonstrates quality, mobilization of people, a higher level of perfection, and inspiring hope/faith (Daft & Lengel, 1998). In consonance with how spiritual survival displays a quest for human existence, a mission statement serves as a foundation for vision and a requisite for organizational existence. The mission statement elucidates the glimpse of leaders' values within the organizational core values and culture, which can be visualized through corporate artifacts.

However, human imperfections persist in the Quaker method of Discernment, especially in the contemporary context, as perhaps, justifiably expressed by Grace (2006) that Quakers are acutely aware of how the human mind falls well short of the spiritual goal and of the vulnerability with which our process might seem. For them, Corporate Discernment of God's will is a tentative and unreliable endeavor. Furthermore, members may feel alienated or silenced if a decision is made without their input or by a substantial majority (Dandelion, 2002). The most challenging problem in adapting the corporate discernment method in the context of the modern corporate world is the commitment of time on the part of contributors to identify the best alternative to arrive at any conclusion. Although the process generally meant much time spent debating and arguing, it also ensured that implementation could be done promptly and with commitment (Cadbury, 2003). Gunia et al. (2012) reinforced

the claim by recognizing that providing the opportunity for reflection and moral discussions in the decision-making process might strengthen the ethical structuring of outcomes. Businesses today may benefit from utilizing at least some of the components of QBM, though only some of the procedure or ideology.

According to the authoritative collectively-agreed narratives and a large community of Quaker researchers, Quaker's economic strategy is not contingent but inevitably linked to certain Quaker beliefs. Undoubtedly, given other Quaker attitudes and beliefs – most prominently an emphasis on individual conviction and distrust of institutional theology and clerical or other religious hierarchy – finding a theologically-framed approach without the participants' attitudes and beliefs being pertinent would be incredibly shocking (Muers & Burton, 2019). According to Eccles (2009), although there are no instances of the Quaker business method being directly used in the argumentation of the presence of Divine inspiration – the available text appears as a conceptual case of the Quaker experience of the Divine. Although primarily controlled by non-Quakers, many 'Quaker-connected' organizations claim credibly to deploy Quaker business methods in decision-making according to Quaker ideals. This experiential perspective, which eliminates agendas and scripted comments, is reminiscent of Freudian group dynamics and some Eastern faiths (Kavanagh & Brigham, 2016). Muers and Burton (2019) asserted that, in its constitution, the Scott Bader Commonwealth (a UK chemical manufacturing firm) founded in 1921 has allusions to decision-making by unification instead of through a formal vote.

In Quaker tradition, knowing the Truth and living 'truthfully' are inextricably linked (Muers, 2015). According to a crucial tenet of Quaker anthropology, everyone has recourse to spiritual Truth, irrespective of their religious connections that birth unique 'experimental' practices of peaceful interaction with the other (Muers, 2015). The primary distinction between philosophy and management can be found in their outcomes. The purpose of management's existence is "performance." On the other hand, philosophy has only one purpose: 'truth' and its consequence, 'liberty,' conceivably being free of misconceptions and critical aspects (Ledoux, 2012). The emphasis on discerning and committed Truth creates a place where God-talk and management-talk may coexist without jeopardizing the integrity of either discourse (Muers & Burton, 2019).

Unlike many writings published, the Quaker business meeting uses no explicit theological language. Numerous constituents of the Quaker Business Method may be readily taught and used separately; thus, there are few apparent impediments to this transferability (Muers & Burton, 2019). On the one hand, the transferability of Quaker business methods into non-Quaker situations may show that intent is not that significant after all – that the will of God can be discovered through this approach independent of the participant's views. Alternatively, this transferability might indicate that adequate justification of the religious descriptions of what is happening is either incorrect or superfluous. However, to seek spiritual guidance to practice Quaker Business Methods suitably, adequate explanations should be sought from the disciplines such as psychology

or organizational studies. These disciplines typically apply vigorous methodological anarchy and concentrate rigidly on the common themes between Quaker and non-Quaker entities that emphasize a QBM (Muers & Burton, 2019). The first upholds theological assertions at the level of cognition while dismissing them at the practical level. The second dismisses theological assertions at the level of cognition but leaves room for the possibility of their application in practice, at least conceptually. Nevertheless, seeking God's will to uncover the pre-existing right solution remains the systemic flaw of QBM.

ORGANIZATIONAL TRANSFORMATION: THE CASE OF CADBURY SCHWEPPE

Cadbury (British Multinational Confectionery, wholly owned by Mondelez International since 2010), as the division of the Cadbury-Schweppes Confectionery business - Cadbury merged with Schweppes in 1969 - was sometimes designated as "Cadbury's and Cadbury Schweppes" (from 1969-2008). The multinational food and beverage company Cadbury-Schweppes produced jams, biscuits, nonalcoholic drinks, tea, and various other carbonated beverages, chocolates, and sugar confections. The chocolate confectionery segment within the broader food sector can be distinguished based on several objective factors (Smith & Child, 1987) - primarily the company's origin. Chocolate confectionery got initially developed as an affluent item without a conventional home market. Consequently, it created a global luxury market that became a mainstream business. Conventional for

confectionery companies to become capital-abundant, centralized, and global, which prompts them to incorporate the newest organizational and technical advancements sourced internationally instead of a local constituency. Second condition: Since the late 19th century, an active marketing approach has significantly affected the growth of Cadbury's business and other essential food companies (Smith & Child, 1987). However, by the end of the late 1970s, Cadburys was attributing the inevitable requirement to optimize weaker product lines to challenges resulting from the increased specialization and commercial elegance of retail trading. More than merely its direct pre-war appeal to "good value," Cadburys needed to support its products on a broader scale (Cadbury, 1964). The primary competitive strategies within the industry are focused on lowering costs via productivity enhancements, replenishing raw materials to reduce pricey cocoa, and advancements in packaging attractiveness.

As Table 1 indicates, Quaker manufacturers shared a unique attitude toward welfare, established employment provisions, and social responsibility that took on institutional quality. While the Quakers have been recognized for their curiosity and entrepreneurialism, they also asserted that any transformation would be gradual and maintain continuity with the past (Smith & Child, 1987). There are enormous perils in simplifying production to centralize the entire factory's resource base on a single line (Cadbury, 1964). Up until the 1970s, Cadburys avoided wholeheartedly switching to a streamlined strategy. Cadburys maintained a Programme of enhanced product

proliferation for several years post-merger with Schweppes, soliciting the expanded organization to transform into a generic food manufacturer through product and regional diversity. It was only in the middle of the 1970s, when Cadbury's market concentration dramatically decreased, notwithstanding this policy of product multiplication, that it considerably reduced the number of products it offered and decided to adopt the Mars model of targeted mass production and marketing. Various practitioners have cautioned that substantial improvements in top personnel positions, ideologies, and policies are sparked by deterioration in organizational performance or other organizational "upheavals" (Frost et al. 1985 & Pettigrew 1985). According to Smith and Child (1987), between 1975 and 1977, Cadbury's chocolate market concentration decreased from 31.1 to 26.2%, with particularly steep declines in product categories; additionally, in 1976, the business miscalculated the cocoa market. Trading profit got reduced in 1975 and 1976, two straight years when inflation was hovering around 20% annually. This calamity catalyzed transformation in Cadbury's business. Therefore, switching from one sector framework to the other required a substantial amount of learning dependent on different modes of information transmission. One was hiring employees from Mars, a rival brand that, by the end of the 1970s, had become a template of Cadbury's philosophy of production rationalization. Another alternative was to lean on equipment vendors, mostly continental producers, who had successfully tested apparatus in other chocolate manufacturing firms to convey cutting-edge production techniques.

Transposition & Progression

Change has been in emotional conflict with continuity in organizations because they are social structures with traditions and cultures, as Pettigrew (1985) highlighted in the instance of ICI. The foundation for transformations got established by previous demands for change, including actual demonstration initiatives. This interplay between change and continuity is visible in the Cadbury experience, which combines management entrepreneurial spirit with a set of deeply ingrained practices at its central Bournville facility. However, transformation implies a metamorphosis or, at the very least, an inner transformation (see Table 1), a change from an earlier state. In this case, the 'transformation' has been ubiquitous as the repudiation of something the management and employees were conscious of, making the business different. This saga of transformation may righteously be called Cadburyism (Smith & Child, 1987), which is famously known for its employment, well-being, and community-related components. The Cadbury employment framework got established early in Bourneville's factory growth. Resultantly, Cadbury developed a Programme for hiring, training, and progression during the interwar that acknowledged access by multiple gates would result in a difference in end position by level and specialization (Jones, 1984). It is obscure that the Cadburys regarded their employment practices as a consequence of corporate efficiency, a Quaker moral compass, and a sense of community (Cadbury, 1912). The Cadburys and other Quaker chocolate manufacturers accorded management organization's role in corporate efficiency considerable attention (Child, 1964).

Cadbury's persistent concentration was Investment in automation (post-first world-war), which was perceived as a primary vehicle of transformation by then, and technical advancement. It enabled price reduction that, in essence, spurred sales, allowing it to increase dominance over the molded bar market. The workers dispossessed by mechanization were assisted through alternative employment in the production plant and the Bournville community. The plans also offered benefits to those laid off through financial incentives to reconfigure or launch a business (Jones, 1984). The Investment Programme continues to prioritize mechanization as it did in the past. However, the company's usual commitment appeared to have been disregarded to make the transition to employment terms as seamless as possible through engagement and preserving the community spirit.

Furthermore, the transformation created susceptibility in a departure from established precedent because of the sheer tenacity of Cadburyism and embeddedness. Because it integrated its vision of community business with a passionate desire for increased efficacy and lucrative capital investment, Cadburyism was a management philosophy that diligently collaborated with emerging trends in concept and technique. The first significant disruption to the Cadbury culture developed from the abrupt administration of the redundancies made as part of "Operation Profitability" (1970). Smith and Child's (1987) investigation indicated that the organization underwent a significant transition after 1978. Cadbury lowered its workers by 4057 (from 1978 to 1985), products by 28, and production lines by 90 during the

same period. Cadbury undertook immense physical reconstructions to the long-standing industries at Bournville and Somerdale, adopted a substantial amount of flexibility, introduced continuous shiftwork, and outsourced many functions. Well-known bedrock of the Cadbury legacy since 1918, the 'Factory Council' was disbanded. The impression of culture shock undoubtedly resulted from events after 1970 that not only shook the previous 30 years of employment security but also pushed with an excessive bluntness that made it clear that management supported labor reduction as a worthwhile goal.

Mechanism

A material structural reform and a cognitive reframe are both required for organizational transformation. Cadbury's transformation went through multiple stages, with its implementation (1978) serving as simply the outward expression. Many of the ideals it relied upon were developed in "Project Ambridge" (1966). In the case of capital intensification and automation, they had already penetrated Cadbury's philosophy decades prior (Smith & Child, 1987). Thus, transformation occurs in several stages, each of which may only sometimes have a distinct beginning and finish. Although it may be undeniable that businesses experience periods of normalcy interspersed with shifts, this over-separates the consistencies and disruptions in time.

Additionally, the consequences of sector-specific conditions must be reconstructed cognitively and proactively acknowledged by all the top vertical managerial position holders. They furnished the conduits through which a novel perspective, or a connection between

a sector and an organization, may enter mainstream knowledge management. However, considering such vertical organizational transitions from a different perspective may also emanate cultural and political unrest (Whipp, 1986). Bower (1970) was the first to explore the complexities of vertical organizational interconnections in anticipation of total managerial commitment to risky transformation. The shreds of evidence can be traced to Cadbury's management's failure to procure organizational support for its earlier endeavors to initiate four-shift working, which gave rise to the 1979 walkout of workers. The repercussions of the merger appeared to have been significant in that a former Schweppes corporate leader and the Cadbury executives pushing for reform in Bournville lacked particular sensitivity about this subject (Smith & Child, 1987).

Family members, management, and employees all continued to uphold Cadburyism as a firmly held philosophy. It served as both a yardstick and mediator - it purposefully prompted important change mediators (such as the technical director) to contend against the tenets of the established order - of such transformation. Blodgett (1983) has also linked this possibility to the family's conventional view of society. He asserted that a relatively small primary employment essence produced by an employment rationalization process and restructuring offers the potential for a nearer corporate image and interpersonal relationships (Blodgett, 1983). In other words, a dominating managerial philosophy should only sometimes be perceived as solely a roadblock to reform. The more evolved it

is, the more potential it is to foster a better formulation of possibilities. It may serve as a crucial legitimization linkage in shifting from one strategic organizational combination to another (Smith & Child, 1987). The Cadbury case illustrates a process of transformation in which the main break from stagnation necessitated the cognitive stimulation offered by support for a total directional movement and required re-aligning existing organizational frameworks with the new demands expressed in light of altered competitiveness. Therefore, the transition process involves a discussion among perspectives. Cadbury's change must be attributed to 'vision' itself - a fundamental perspective that conveys clarity of purpose and the essential emblems it defined while acknowledging the roles played by authority and circumstances. The distinct cognitive frameworks espoused by individuals in various positions (according to specialties and hierarchical levels) and with conflicting pedigrees led to the advancement of a range of strategic visions for transformation during the 1970s. The significant proponents were determined to use their influential organizational positions to push for significant innovations.

Employee engagement with little capital involvement or labor elimination through substantial capital expenditure in mechanization was the two main identified strategies for increasing productivity in Cadbury's business. Workplace organization visions varied from extreme proponents of eradication to the blank slate of Greenfield sites and advancement by engaging collaboration via involvement (a typical Cadbury method). There was rivalry

between the different power coalitions and proponents of these ideologies, as well as partnerships across specialties that included blended visions (Smith & Child, 1987). The ideology behind mechanization, labor & product reduction, and new working habits were reflected in the 'Long Range Plan' (1978). The transformational leaders (family members or employees who had spent long years working for Cadburys) had past management experience in handling significant transitions, which provided them with a conceptual framework for process building. The plant closure and production rationalizations that started in 1967 and 1971 were greatly influenced by the technical director, who was the leading proponent of dramatic transformation through root-and-branch site transfers (Smith & Child, 1987). To bring significant rationalizations, the managing director accelerated the frequency of personnel reduction and task structure modification in the 1980s. However, it is not reasonable to mention that only internal sources got exclusively used in Cadbury's transformation; on the contrary, the company's internal agents of change also drew crucial thoughts and ideas from external sources.

Additionally, the senior transformational leaders relied on more junior players to spearhead the realization of essential milestones in the transformation process to exert their authority. In general, confrontation and incremental change were applied to implement the transition. Regardless of the revolutionary context of the reforms and management's dedication to implementing them, there was not much internal friction. However, this must always be measured against a prior background

of positive labor relations. The tradition of better labor relations and equilibrium management did strike between occasionally taking a solid stance and persisting in trying to create concurrence through communication systems (including videos) must be credited in part for the reduced prevalence of internal conflicts during a period of transformation (Smith & Child, 1987). However, providing financial rewards to workers was highly crucial to this personnel strategy.

Case Findings: Managerial Takeaways

Considering the organizational transformation of Cadbury Schweppes, provide the following conclusions:

1. It is conceivable to distinguish sectorial phenomena crucial to comprehending the behavior of enterprises and, particularly, the settings under which they transform.
2. The transformation of Cadbury did not entail a complete departure from its traditions. Unlike Mars Model, for instance, it stayed unionized, maintained multiple sites, and continued to create a variety of premium brands.
3. A prolonged recognition phase did follow the transformation, which required a mix of 'symbolic' and 'power-relevant' actions, including (a) reframing the understanding of critical situational factors and adequate reliability arrangements and (b) the ascent into influential positions of individuals espousing reinterpretations and solutions.
4. Competitive strategies and improvement recipes were proposed by actors whose perspectives got influenced by their training, expertise, and prior experience with the organization.
5. The conventional and formerly dominating corporate philosophy was not just an obstacle to change. Its widespread acceptance and cohesiveness gave a clear stance against which to build the argument for transformation. The adaptable corporate ideology of Cadburys emphasized openness to new methodologies and intellectual inquiry and the encouragement of management to continue in this manner.
6. The transformation process involved stages without a distinct beginning and finish. It necessitated the importation of information through sector networks and connections between divisions at multiple levels to align the corporate support for the reform with its execution in individual projects.
7. The articulation of fundamental tenets and symbols contributed significantly to the activation of transformation. These were designated as primary objectives to drive organizational efforts and served as levers for a reconfiguration.
8. Important agents of transformation also relied on their power. In addition to their positional authority, their legitimacy in a crisis was bolstered by their history of effectively managing change in other sectors of the organization, however, where forces opposing change were less ingrained.

QUAKERS' SOCIAL CAPITAL: CASES AND REFLECTIONS

Individuals who believe in religiously-based social services believe that transferring social capital can help build a harmonious society and solve problems like poverty and inequality. Putnam (2020) defined Social Capital as "the features of social organizations such as networks, norms and

social trust that facilitate the coordination and cooperation for mutual benefit.” Walvin (1997), cited in Schneider (1999), rightfully furthered that cooperation rather than competition was the commercial mantra of Quakers. Like human capital’s skill set, social capital is an intangible input that can be obtained through collaboration or community participation and readily operationalized into voluntary assistance to people in need (Greeley, 1997). Coleman (1988) emphasized the importance of constructive face-to-face interactions among community members, whereas Bourdieu (1984) and Wacquant (1992) believed that social capital was one of the three basic types of money (economic, cultural, and social) that worked together to reshape the social system. These two traditions were combined by Portes (1998), who redefined social capital as relationships within a collectivity founded on enforced trust that impacts its participants’ economic objectives and goal-seeking conduct. According to Schneider (1999), in obtaining engagement with material and social wealth, people or organizations use linkages between members of a group that is culturally encoded. The following two components make up social capital: (a) linkages with individuals or entities with accession to the resources and (b) cultural signals that indicate that a person is a community member and should be granted accession to such linkages (Schneider, 1999). However, to constructively exchange social capital, organizations must learn to develop bridges across quite diverse groups (Milofsky & Hunter, 1994) while retaining relationships within their fraternities. The authors have tried to look at the challenging process of theologically-driven organizations

striving to achieve this objective via cases of three distinct Quaker-based organizations working in underserved areas. The current study illustrates that: a) Successfully deploying a religious body’s social capital for community service depends on the capacity to maintain the network ties and appropriate cultural capital norms envisaged by adherents of the original faith, b) Organizations can support outsiders through religious-based resources without expanding their limits to accommodate persons from the communities they serve. Acknowledging how socially-oriented organizations serve the broader community successfully requires an understanding of a) their capacity to put their beliefs into action, b) their potential to conceive a hurdle, and their efficacy in engaging with the groups they want to benefit (Schneider, 1997).

These three organizational narratives demonstrate the systems of beliefs-driven service that either support or undermine efforts to build social capital through the collaboration for the betterment of the underprivileged. Each entity illustrates a unique platform to share social capital with the communities its programs serve.

Quaker House

To accommodate new migrants in the neighborhood, Friends from a nearby Meeting established Quaker House in 1879. The development of social capital linkages through the cultural indoctrination of public members offered into predetermined criteria and the weakening of social-cultural linkages from the pioneering religious body are two social capital-sharing tendencies seen throughout Quaker House’s history. The initiative became a complex social service agency with paid workers as time progressed (Schneider, 1999)

and expanded the social capital structure by integrating community members into Quakers' practices and the exchange of social capital reserve. Fellowships and grants to Quaker' run educational institutions for members of the public were provided, besides invitations to serve the board or as staff for these program participants. By the 1950s, African Americans made up half of the organization's personnel, while non-Quakers made up the other half. However, there was still a considerable Quaker presence and practice.

However, as Quaker House gradually lost patronage and influence within the broader Quaker world, the relationship between the institution and the wider Quaker group started crumbling in the 1960s. This period in the nation's history exemplifies how social capital may be detrimental (Portes, 1998). Members in organizations increasingly depend on narrower, tight-knit social connections of trustworthy people, thus excluding the neighboring leadership and the social capital of the broader Quaker group. Non-Quakers began to fill executive director positions, and many powerful Friends who had previously served on the board stepped down, pulling social support from the group. Due to this erosion in social capital, Quakers in the city who had affiliations to foundations and significant personal fortune eventually had limited access to material resources. The surviving Quakers were passionate about the institution but needed more economical means, nonprofit leadership experience, and contacts that previous boards had inside the Quarter. The corporation started losing its purpose of mission and developed management challenges due to poor staff leadership and progressively weak boards.

The workforce was nearly wholly made up of non-Quaker Blacks by the mid-1970s, and the Quaker volunteer participation had vanished. Although the organization had a few unique activities, it was plagued by chronic mismanagement, staff shortage, and a lack of ambition. The programs did not meet the mission or specific program service goals. In 1987, a Friend who had been re-appointed to the board encouraged the organization to appoint board members. By the late 1990s, the Quarter had begun to nominate more proactive and competent board members, who gradually began to ask the necessary questions to help the organization turn around. Although it is relatively early to observe concrete results, the staff and the board recognized the importance of combining mission focus, administrative skills, and links with the local Quaker community (Schneider, 1999).

Youth Together

'Youth Together' exemplifies how to share social capital by broadening both relationships and cultural cues. The project model is an idealized version of social capital, intending to spread connections and culture across class and race divides (Schneider, 1999). The Project had its first formal program year in 1992 and ran as a stand-alone program until 1996. The program originated in 1990 around small mentoring clusters of youth from three locales - people from the middle-income group, Blacks from racially segregated high-poverty zones, Whites from working-class to poor neighborhoods, and Puerto Ricans — that regularly collaborated with collaborating toward a collective goal. This tiny minority believed that enabling opportunities for teens and adults from various

social groups and racial backgrounds was the best approach to eliminating prejudice. Activities for small and big groups used to be scheduled at the participating social service organizations and Friends meetings held across the city. The rationale of this program was to promote social capital in all participating communities and create cultural competence across groups based on incorporating both the culture and network linkages so that individuals can effectively migrate across social linkages throughout their lifetimes. Creating bicultural persons capable of fostering social capital spanning class and racial lines became the core aim, considerably more vital than preserving the Project's small-group networks. However, Some White Quakers were concerned about cross-class and racial contact because of their preconceptions and unpleasant experiences.

Nevertheless, people wondered how a program could work with underprivileged communities instead of ministering to them when 2/3rd of the founding committee members were White. Consequently, some members of the Friends community had ambivalent feelings about the program, which resulted in sluggish decision-making, restricted financing prospects, and some backstage efforts to curb program efforts. The Monthly Meeting was in charge of the program's finances for the first two years. Because it required the pre-established administrative and legal frameworks, the program switched its budgetary sponsorship, particularly those organizations from which it recruited participating members in its third year. The advisory committee meetings and the program followed Quaker's business practices in its operations. 'Youth Together' had a devoted

core of long-term participants by the fourth year, a well-known model that had achieved modest financial success and had learned the advantages and disadvantages of this method.

Burial Ground Project

The Burial Ground Project demonstrates Quaker community services that efficiently galvanize social capital without increasing the social capital network's bounds. A Quaker biographer got worried about the Burial Ground Project while working on a history of a Quaker who opposed slavery and advocated for women's rights who was cremated at this historic cemetery. The Quaker historian's description of her experience of illumination as being moved to act by a still, little voice is typical of the Quakers' understanding of how the Spirit moves a Friend to take social action.

Until 1990, the green haven had morphed into the neighborhood's central hub for narcotic activities. Like many low-lying regions in Philadelphia, this community was made of a unique blend of people who cared about their neighborhood, made ends meet any way they could (often via minor criminality), and were drug traffickers (Goode & Schneider, 1994). Residents were afraid to protect their community as crime and violence rose, fearing retaliation. After discovering that the graveyard was a Quaker cemetery and reporting on its circumstances, community members contacted the Friends' Yearly Meeting. The historian's subtle instigation to do something became an amber alert to prompt action due to negative press and community calls for assistance. She quickly began mobilizing efforts to rehabilitate the area and improve the cemetery's condition, along with several other powerful Friends from

her Meeting. Her actions demonstrate that she is leading rather than solely reacting to the Quaker's self-interest in dealing with an uncomfortable circumstance.

Instead, she leveraged Yearly Meeting's social capital to build a long-term endeavor and provided prospects for many more Friends to carry out their concern for global service and spiritual nourishment (Schneider, 1999). Similarly, the Burial Ground Project volunteers regarded this endeavor as a means to implement their beliefs. On the other hand, it demonstrates that a project that succeeds on all fronts by leveraging religious community social capital does not have to require forming cross-group social networks.

The Burial Ground Project started as two community-based social service projects. A community organizing initiative, which lasted about a year and aimed to construct a tiny settlement house in the area, was launched. The community organizing endeavor floundered because it needed to establish a focal point for action. After completing the community organizing effort, several of these panel members continued working on the Burial Ground Project. Another committee was working on reclaiming the burial ground at the same time. This committee comprised members from all of the Quarter's Meetings, with leadership provided by powerful Friends from one Meeting with experience in wealth management and altruistic governance. They promptly established a 501(c)(3) organization and secured the funding necessary to reclaim the burial ground. The Project leans upon Quakers' social capital to effectively execute its initiatives. These people utilize their expertise and leverage over the city's material resources to obtain funds for their

pursuits. The Project produced an extremely successful restoration movement that drew in Quaker participants from around the Quarter and nearby meetings to sweep up garbage and undertake landscaping tasks, similar to weekend camp designs of gathering volunteers to rehabilitate underprivileged regions. The initiative successfully rehabilitated the land and erected a safety fence to keep the drug users out over several years. The Project has transformed the Burial Ground from a community eyesore into an asset.

Case Findings: Common Reflections

The practices depicted through these 'Not-for-profit' organizations exemplify the multiple ways in sharing theologically driven social capital with non-religious groups. All three groups started due to a small group of Friends' concerns. Apportioning social capital resource base systems emerge from how each entity employs Religious Society of Friends cultural practices (Schneider, 1999). While each one of these community services projects had clearly defined roles and personnel who guided and succeeded as employees, board members, or participants, they were all established on Quaker business principles (Table 1). The intricacies of this process impacted the association between the founding religious institution, the social service program, and the greater community it served. Institutions searching for alternatives to the hierarchical structure of the current administration sometimes turn to Friends for Consensus approaches (Schneider, 1999). The business practice among Quakers is an acquired trait. When it succeeds, it provides a great sense of success while reinforcing the core Quaker conviction that God is present in everyone.

REFLECTIONS AND DISCUSSION

Drawing broad generalizations from historical case study-based research should be done carefully since history is always specific and transient. Nevertheless, examining the Quakers should prompt us to reconsider some of our presumptions and preferred stories. The authors claim that the Quaker narrative should be incorporated into the history of management philosophy, which has been largely left out of our field's predominant narrative. Why does management literature typically place the field's genesis around 1870 and 1890, ignoring the significant role that the Quakers had in the development of business and trade prior to that period? One argument is that the corporation as a legal entity evolved in the second half of the 19th century, along with a managerial class whose requirements were never linked with Quaker's ambitions, purposes and practices. The Quaker narrative challenges other prominent management narratives, notably dualistic ones. American management rhetoric (wavered from normative poles to rational poles) does not overlay onto the Quakers' narrative because the Quakers have always focused on optimizing core business (the rational pole) besides understanding employees' concerns (the normative pole). Their business capacity of exploration was grounded on their recognition that success usually takes generations. Quakers' narrative is also a robust alternative to other prevalent models in management research. For instance, Porter's (1980) assertion that firms should not get stuck in the dilemma of cost-cutting and differentiation strategies; the Quakers illustrate that doing both is feasible and sustainable over the long horizon. As inquisitive

thinkers, Quakers were always fascinated by uncertainty, which fueled their interest in science, innovation, and experimentation.

Widely acclaimed scholarship of Quaker studies believes that the organizations that have grown monotonous in the gloominess of an operational, materialistic world and aggressive & disturbed in an atmosphere of explosive change, the Quaker practice of 'turning within' may transform depressing workspaces into environments that nurture the human heart. The authors claim that the Quaker conceptions of Stillness, listening, quietism, thankfulness, grief, visioning, and journaling are some tools that can transform a miserable state into a vibrant one. Spiritual practice in educational psychology has prioritized the need for business and management schools to revert to an existential mission. It has necessitated cultivating heart and Spirit, kindness and compassion, and instilling soulful governance. The emphasis on solitude, silence, self-awareness, and service in Quaker spirituality stimulates what makes people hum, demonstrates our power in unexpected ways, and allows us to become better versions of who we are.

As ownership migrated steadily into the hands of institutions, the Quakers were pushed out of the modern commercial sphere. The early Quaker employers, and the specific corporate ethical principles preached by them, are deliberately forgotten in modernism, which usually praises the manager, and the specific task management performs in the modern firm. Given current concerns about corporations, it is appropriate to reconsider the responsibilities and functions of this organizational structure and its governance. Ethical business practice, which

involves adhering to moral standards in business situations and practicing socially conscious commercial conduct, is increasingly essential for maintaining the credibility and effectiveness of large organizations. It is essentially due to the increased globalization of corporations, which has complicated these issues.

Managers must periodically reconsider their strategies to accommodate various organizational changes, necessitating mindful-reflexivity to consider individual diversity to build an inclusive and ethical culture. The Quakers are an excellent starting point for such re-imagining. However, due to the dearth of philosophical thoughts on our relationship with the corporate world, corporate ethics might lead to well-intentioned but counterproductive acts. Therefore, Geoffrey Klempner's concept of the "business arena" and Benoît Frydman's concept of "co-regulation" might assist managers in making better judgments. Regarding the abundance of discussion surrounding the corporation's undue dominance in contemporary society and vigorous conversations about alternative organizational structures, it is probably relevant that the subject is addressed today.

However, in today's different economic and social circumstances, it is futile to imitate or replicate yesterday's Quakerism. Nevertheless, Sir Adrian Cadbury had established principles that may be close to the notions that Quakers are more recognized to date. They consist of concepts that appear effortless and candid to comprehend. Those five principles are "respect for the person," "taking the meeting's spirit," "the need to discover a better method," "care for education," and "concern for the community." Even if Quaker businesses do

not exist as they once did, Quaker business ideals might be portrayed as having been substantially and implicitly incorporated into modern capitalism through a considerable interest in CSR and good capitalism. However, when these practices are separated from Quakerism's fundamental ethical principles, they are inevitably more prone to straying from the feeling of community essential to Quaker's business ethics. Quaker businesses were renowned for their benign paternalistic management, as well as an automatic reflex of the employer's moral obligation towards personnel, which manifested in creative and expansive welfare schemes.

However, the current study also cautions against glamorizing the Quakers, considering that they were of their period and some of the Quaker business practices are paternalistic and bigoted. Many Quaker beliefs may be persuasive and admirable, but any conviction carried to the extreme can be repulsive, harmful, paradoxical, or all of these. The downfall of some Quaker firms is partly due to their dual emphasis on authenticity and worshiping practices, especially liberal worship that can entail questioning the essential core of Quaker convictions. In an increasingly divided, unbalanced, and resource-constrained society, we may need an action theory in the management philosophy that values authenticity besides a set of morally-oriented behaviors that values both the experiential moment and the long-term betterment of subsequent generations. To better integrate management philosophy into the mainstream of businesses, the authors further assert that modern corporations need to consider the following: (a) How to strike a balance between

a strong community ethos and independence, (b) how to foster an atmosphere that embraces people to be individuals instead of clones, (c) how to make space for dissension and sarcasm, and (d) how to ensure that their well-being scheme does not feel compelled, presumptuous, conformist, or a type of totalitarian vigilance. Finally, a dedication to personnel welfare is

inevitably linked to a dedication to business excellence. In a more fragmented, uneven, and resource-constrained future, we may require a philosophy and action that values pleasure and authenticity, as well as a set of norms that prioritize the present moment's experiential value and the long-term well-being of future generations.

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REPRESENTATION OF UNDERREPRESENTED GROUP: A CASE OF WOMEN POLITICAL PARTICIPATION

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ABSTRACT

Gender inequalities persist in the society, particularly in politics, and their underrepresentation is widely seen in higher level positions. The purpose of the study is to briefly examine broad causes, effect of women participation in politics and remedies for due representation. Through academic literature in the area of economics and political science with specific concern about gender inequalities and women's underrepresentation in politics is globally realized. Further, extensive secondary tools applied to establish factors responsible for women's underrepresentation, women positive effects in politics and an effective system for their redressal. It is observed that still a misconception existing in the society that women are incompetent to handle core areas of administration like finance, economic development, foreign affairs, defense, trade, and entrepreneurship with particular reference to political and government machinery where women allocate portfolios limited to women-only issues. It is seen that reserving seats for women in politics yield positive outcomes. Furthermore,

even after quotas were discontinued, quotas improved perceptions about women as leaders, increased girls' aspirations, and helped women get elected. In a true democracy, women's political participation is a precondition for realizing gender equality. However, globally, less than 25 per cent of seats are represented by women in parliament and only 12 per cent of women occupy head of state positions. This disparity is also found in local government in various countries.

Keywords: women, gender, inequality, gender gap, policy, empowerment

INTRODUCTION

Women are the first person around the world who considered as first among all to look after children and elderly in the family. Apart from their primary duties, it is observed in some of the studies that women have quality to lead the society in adapting new realities and challenges through family even during the transitional phase occurring due to change of economy and political organisation. Historically, women in India had occupied lower status in everyday

life in comparison to their counterpart. They were regarded as the world's ideal housewives and preached in the name of Saraswati, Durga, Parvati, and Kali because of their unrivalled mental calmness. Though, they had impeccable qualities to lead the society, women higher status was traced in scripture only. They had to keep the family running smoothly, manage expenses as efficiently as possible, look after the child and elderly in-laws and so on. It was expected from them that they must obey their husband's and family orders but were kept apart when it came to major family decisions. It can be understood that women were not much educationally advanced in history and educational backwardness may be major reason of women lower status in society.

In recent years, women position in society has been gradually changing. Women are representing themselves in all fields of importance and in addition to cooking and caring for their households, they step out from their comfort zones to visualize them in the outside world. Modern women are self-sufficient, make bold decisions, advocate for their rights, and pursue success. Women like Droupadi Murmu, Susma Swaraj, Aishwarya Rai, Susmita Sen, Indra Nooyi and many others are prime examples. Similarly, women's roles in the United States have shifted dramatically over the last few decades. An increasing number of women are taking up new responsibilities outside the home by entering the paid labour force. Women made up roughly one-third of the workforce in 1969, but now account for nearly half of all workers in the United States. Women are also taking the lead in leading the country, with a record number of women running for public office. We can recall the

names of Michelle Obama, Hilary Clinton, Serena Jameka Williams, and many others in the United States who demonstrated that women are not inferior to men.

After the educational advancement of women and expanding their horizons, women can be felt in male-dominated areas where they have restricted entry in past. Today women have capability to choose the correct path of their progress and as a result, we make out them in all walks of life. Women's status has greatly improved, and many women now occupied positions of good repute in government and private industry. Women are active in every sector of the economy. It has demonstrated that if women given the opportunity, they can outperform men. Despite women's advancements, significant inequalities persist in both countries, particularly in politics.

METHODOLOGY

The methodology to analyse the women participation in politics in this research paper primarily based on review of various existing literature on women's political empowerment, participation and leadership. This paper analyses Panchayati Raj Institutions (PRI) policy of 1992 for India and Inter-Parliamentary Union's most recent data for realization of women participation in politics globally. Through number of studies, it is established that women in politics bring positive impact on women-centric policies like increased on female-friendly investment (Chattopadhyay and Duflo, 2004), increasing in reporting of crime cases (Iyer et al., 2012), decreasing in the cases of adolescent gender gap (Beaman et al., 2012), changing in voters' perceptions towards female candidates

(Beaman et al., 2009), visibility of women in women-owned establishments (Ghani et al., 2014), improvement in health facilities and decreasing in girls mortality rate (Kalsi, 2017). The World Economic Forum's Global Gender Gap Index, 2022 data is also used to show women underrepresentation in politics.

WOMEN IN POLITICS AND ITS EFFECTIVENESS

Women play the role of the heart in every family, and their functioning is critical to the functioning of every member of the family. The role of women in family is not restricted to breadwinners. Apart from breadwinners of the family, women are the guardians of social, cultural and fundamental value of the society. Without their active role of women, overall development of the community is not possible. Undoubtedly, women contribution is enormous to the socio-economic and political growth of any nation. Women have already proved their ability in managing household activities efficiently but their position is yet to be recognized by the people in the country political life.

It is proved in many studies that more women in parliament bring more changes in policies focusing on women related issues. In a true democracy, women's political participation is a precondition for realizing gender equality. It boosts women to take greater accountability and excel directly in public decision-making bodies. Number of social benefits in favour of women are the result of women leadership in politics including reduce gender gap (WEF, 2017). It also revealed that increased cooperation across party and ethnic lines, and priority on social

issues like education, health, parental leave, pension, etc., are also the result of women headed government (Markham, 2013). Furthermore, women's involvement in decision making process in both the public and private services has been seen as strong influence particularly on women communities and its positive impacts: political participation by female voters and women-issues oriented public services (Burns et al., 2001).

Gender Equality

Women's involvement in political affairs leads to reduce gender gap by considering issues concerning gender equality and solutions for their effective redressal. According to research, "whether a legislator is male or female has a distinct impact on their policy priorities, making it critical that women are present in politics to represent the concerns of women and other marginalised voters and help improve policymaking and governance responsiveness" (Hassim, 2006). There is strong evidence that large representation of women in public offices corresponding introducing of policies emphasising upon women equality and setting priorities on the agenda having positive impact on families, women and minorities.

Women Work Across Party Lines

According to research, "women's leadership and conflict resolution styles embody democratic ideals, and women work in a less hierarchical, more participatory, and collaborative manner than male colleagues" (Rosenthal, 2001). In comparison to men, women are more likely to work across party lines even in polarized conditions. "Twenty-five percent of female lawmakers in the United States name women from the opposition party as key supporters of

their top legislation, while only 17 percent of male lawmakers do” (CAWP, 1991).

Women as More Sensitive to Community

According to research, “women lawmakers see women’s issues more broadly as social issues, possibly as a result of the traditional role that women have played as mothers to nurture their communities, and more women see government as a tool to help serve underrepresented or minority groups” (Cammisa and Reingold, 2004). As a result, women lawmakers are frequently found more sensitive towards community issues and more reactive to constituency needs. Evidence from developing countries around the world shows that “increasing women’s participation in political life often leads to improved socioeconomic conditions and prioritises poverty reduction and service delivery as priorities for their constituents” (Roxane, 2011).

Women Help Secure Lasting Peace

Women are deeply committed to post-conflict reconstruction and bring a unique and powerful perspective to the negotiating table. Women suffer disproportionately during armed conflict and are frequently the most vocal advocates for conflict stabilisation, reconstruction, and prevention. Furthermore, studies show that “women’s participation in transitional and post-conflict governments can increase the legitimacy of nascent institutions, reduce government corruption, broaden the political agenda, promote consultative policy making, and encourage collaboration across ideological lines and social sectors” (IIS, 2009). According to research and case studies, “involving women in peace agreements, post-conflict reconstruction,

and governance increases the likelihood of long-term success” (Chinkin and Charlesworth, 2006). Furthermore, there is convincing evidence that proving long-term peace necessitates the alteration of power dynamics including more impartial gender relations (Strickland and Duvvury, 2003). According to research, women involvement in the initial stages of peace processes improves permanency, decreases corruption in political institutions, and raise higher standing of living mainly in the area of healthcare and education.

Confidence in Democracy

Around the world, it is perceived that women politicians are frequently seen as more honest and responsive than their male counterparts that support belief in democratic and representative societies. Their involvement also serve the society to strengthens the governing body’s legally by making more representative society. A study of 31 democratic countries found that “the presence of more women in legislatures is positively related to improved perceptions of government legitimacy among both men and women” (Schwindt-Bayer and Mishler, 2005). In the United States, public opinion polls found that women outperformed men mostly in all policy making areas including establishing honest government and promoting constituency interests.

Development of Key Indicators

When women are empowered as political leaders, countries’ living standards improve, positive developments in education, infrastructure, and health can be seen, and concrete steps are taken to help democracy deliver. Researchers found after evaluating the data of 19 OECD countries that “increasing the number of female legislators leads

to an increase in total educational expenditure” (Chen, 2008). The Inter-Parliamentary Union found that “90 percent of women in public office in 65 countries believe that they have a responsibility to represent women’s interests and advocate for other members of society in a survey of 187 women in public office (UNICEF, 2006). In India, research found that villages in West Bengal with large number of elected women made good investment on drinking water facilities in comparison to the villages having less number of elected women and their roads were in good conditions as well. According to the study, “the presence of a female council leader reduces the gender gap in school attendance by 13 percent” (Beaman, 2007). Women legislators’ consistent efforts on improving healthcare issues is reflected globally (Schwindt, 2006). According to research, “non-feminist women are more likely than non-feminist men to prioritise issues affecting women” (Mollmann, 2011).

POLICIES TOWARDS BETTER REPRESENTATION

Trying to combat gender gap in politics is a thought-provoking process that requires participation from every segment of society. Despite advancement over the decades and the presence of females in parliament, the political field still quite socially homogeneous (Gjermei, 2021). In order to increase women’s participation in policy making process, discrimination based on gender must be eradicated from society, people must be understood the concept of gender bias and women must be supported mentally and economically. In a democratic society, people must attempt to set up unbiased political parties in which women are promoted

to participate actively in politics and secure their seats in order to ultimately be a part of decision-making.

Reserving seats for women in political institutions increase the chances of association of more women in democratic and increases female voter turnout. It also to a large extent triggered government attention towards women’s policy issues. It encouraged women to participate in competitive mixed-gender situations where both men and women are eligible for competition positions. Women in leadership position have significant impact in improving women number in political platform as exposure to women elected leaders on several occasions improves perceptions of women leaders and leads to electoral gain in future. Women leaders occupying good positions in a political set up is considered as role models for other women aspirant and motivate adolescent girls to pursue their desire of leadership (Chung, 2000).

CONCLUSION

Women are the only members of the family who can adapt to any situation and create the same adaptable environment for their family. This article tries to highlight the fact that if women have such an ability to manage household activities as well as contributing significantly to the economy, why are they not given adequate political representation? In order to show their capabilities to the outside world, political empowerment is essential for women which not only eliminate gender discrimination against women from society but also help them to achieve equal status in the society. Many countries constitutions confer right to political and socioeconomic equality to the women. This

right in real form should be implemented and the countries in the absence of this right must frame such right having concept in mind that women are equal to the others. Women's work in politics is impeccable and making positive effect in the society after breaking the shackle of patriarchy barrier, but it is not recognized, and their contributions are frequently overlooked. Affirmative action in the shape of gender quotas

in politics is a panacea for closing the gender gap in politics. Women quota is considered as policy to increase women's political participation. Reserving seats for women's increased women's political representation and positive policy outcomes. Furthermore, even after quotas were discontinued, quotas improved perceptions of men for women as leaders, increased girls' aspirations, and helped women get elected.

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SUSTAINABILITY AND INNOVATION PRACTICES IN LEATHER AND FOOTWEAR INDUSTRY: A SYSTEMATIC CONTENT ANALYSIS

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ABSTRACT

The goal of sustainability is to satisfy current needs without jeopardizing the ability of future generations to satisfy their own demands. In the leather and footwear sectors, sustainability is defined as shoe design, development, manufacturing, distribution, and selling procedures that reduce the negative effects on the environment, conserve energy and natural resources, are secure for workers, communities, and customers, and are financially prudent. In this study, the scientific literature on innovation and sustainability in the footwear sector during the previous ten years will be analyzed. The study is in the descriptive and exploratory categories. The procedure produced 38 papers in the Scopus database and Google Scholar that matched the research topic. From 2000 to 2023, on the subject of leather and footwear, the bibliometric analysis identified the most pertinent papers, authors, keywords, nations, research institutions, and journals. For the purpose of bibliometric analysis, R Studio will be used. The leather and footwear industries must

support each other in terms of innovation and sustainability, which we tried to find through a systematic literature review analysis. Innovation in the footwear industry is an important factor, and due to the reduction of raw materials such as leather and the negative impact of leather on the environment, the importance of sustainability in the footwear industry has increased.

Keywords: Sustainability, Innovation, Bibliometric analysis, Leather and Footwear Industry.

INTRODUCTION

Sustainability means meeting the needs of the present without jeopardizing those of the future by achieving a balance between economic development, environmental protection, and social well-being. Mankind is right now assessing the planet's resources and carefully considering what may be done to ensure that they are available in the future for environmental protection and social well-being. Mankind is right now assessing the planet's resources and carefully considering what may be done to

ensure that they are available in the future. The importance of trying to achieve the use of natural resources sustainably or to generate a minimum of consumption worldwide has been acknowledged on a global level. The consumer market today is more driven than ever by environmental concerns, which have a growing impact on the products that consumers choose. The greater cost of organic food in a number of nations indicates that some consumers are willing to pay more to feel secure about their purchases. The consumer market today is more driven than ever by environmental concerns, which have a growing impact on the products that consumers choose. The greater cost of organic food in a number of nations indicates that some consumers are willing to pay more to feel secure about their purchases. Since environmental pressure groups have been active and the internet has become more widely available, there is now more public awareness of environmental issues than ever before. Companies and organizations are currently thinking seriously about sustainability as one of the important concerns to address in business, perhaps first in response to consumer pressure. If the manufacturing materials and procedures employed do not have a negative impact on the likelihood that the same product will be produced in the future, a product can be considered to be environmentally friendly and “sustainable”. Prior to being adopted as a new production paradigm, sustainable measures require large time investments in research and the development of technical and management abilities by the innovative agent. The expenditures associated with a company’s efforts to be sustainable are expenses that it

intends to recoup through the advantages of adoption [2,13].

The footwear industry is a multi-trillion-dollar industry worldwide. The footwear market, which is a part of the clothing and apparel sector, consists of shoes, sneakers, luxury footwear, athletic footwear, and sporting shoes, as well as other associated products. Leather, textiles, and a variety of synthetic materials are frequently used to make footwear goods. The value of the global footwear market in 2022 was predicted to be close to 382 billion dollars. The Indian leather industry’s footwear category is a hugely important one; in fact, it serves as the sector’s main driver of expansion. With 13% of the world’s 16 billion pairs of footwear produced, India is the second-largest producer behind China. India manufactures 2065 million pairs of various types of shoes, including 909 million pairs of leather shoes, 100 million pairs of leather shoe uppers, and 1056 million pairs of non-leather shoes. India sells 115 million pairs annually. As a result, almost 95% of its output is used to satisfy domestic demand.

The footwear sector is expanding economically, so it is necessary to make the production process more sustainable. In regard to their influence on both economic growth and innovation, the leather and footwear industries are significant. Manufacturing footwear not only satisfies social and technological demands but also affects the environment. This may be avoided, but only if improvements are made to the process. Manufacturing and procurement of footwear raw materials are responsible for environmental pollution. Carbon, or petroleum, is used by manufacturers to run

their factories. Carbon dioxide and other greenhouse gases are produced when these fuels are burned. The atmosphere is then filled with these gases. Sustainable development in the shoe industry is defined by the FDRA as practices that minimize adverse environmental effects, preserve energy and natural resources, are secure for workers, communities, and customers, and are economically viable. The manufacturing process involves the use of chemicals, including adhesives and tanning chemicals, which may leak into the environment through the outflow from the factories; the creation of footwear takes a lot of water, roughly 8,000 litres per pair; and energy is heavily used by the footwear industry. Energy use in the footwear industry is significant. Footwear firms need fossil fuels, which release greenhouse gases, for everything from cultivating the crops to running the equipment they use. 1.4% of the world's emissions are attributed to the sector, according to Quantis research; the movement of shoes from manufacturers to retailers also contributes to pollution; and last but not least, the majorities of shoes are not recycled and end up in landfills. The footwear industry has a large societal impact as well. The majority of footwear is made in underdeveloped nations, sometimes at extremely cheap rates. Additionally, there are frequently poor working conditions in factories, and employees are required to work long hours in potentially hazardous situations. Some footwear companies have a history of using child labour in their supply chains. The communities where the factories are located become more impoverished as a result of all this.

In this context, this study aims to analyze the scientific literature on sustainability and

innovation in the footwear sector in the last 22 years in order to identify how this sector—of greater incidence in the world—is treating and minimizing its environmental impacts while at the same time bringing innovations to its products. The study is divided into six sections; the first one comprises this introduction. The second presents the theoretical framework of sustainability, innovation, and environmental issues. The third establishes the research methodology used in this research. The fourth section reports on the results. The fifth section presents the discussions. Finally, we present the conclusions.

RELATION AMONG SUSTAINABILITY, INNOVATION PRACTICES AND FOOTWEAR INDUSTRY

Business sustainability is viewed as an important component of sustainable development, and then contemporary developments offer new evaluation standards in addition to the traditional ones. There is no other reason why this problem should be at the centre of sustainable development, than the idea itself. Even the founders of the sustainable development movement, such as Rachel Carson, faced harsh criticism for some successful innovations, such as DDT (dichloro-diphenyl-trichloro-ethane)[5]. It is difficult to promote a sustainable environment due to uncertainties. The solution to this problem is that bringing Innovation should produce economic results as well as a socially and environmentally positive environment at the same time. Sustainable development is a combination of technical and social changes

because these are all closely related. Innovation that enhances the ability to manufacture products and services sustainably and use sustainable business practices (Boons et al., 2013) When individuals and the organization as a whole insert and foster innovation, it has a tendency to develop, which in turn predicates the creation of positive innovation traits. According to Dyer, Gregerson, and Christensen (2011) five skills that promote new ways of thinking encourage innovation.

Innovation that depends on a sustainable environment, such as eco-innovation and environmental innovation (Carrillo-Hermosilla et al. 2010), the terms “eco-innovation” and “eco-efficiency” refer to practices that come about as a result of the fusion of the economic and social facets of sustainability. Eco-efficiency is a practice that sits between the environmental and economic foundations. This requires creating products and services that serve human needs at affordable prices while progressively lowering environmental consequences to a level that the Earth can support [3]. Eco-efficient improvements, for instance, extend the lifespan of the product and reduce the amount of resources and energy used to produce each unit. However, they may result in unemployment, skill extinction, community harm, or societal issues, as well as social groups. Therefore, eco-efficient innovation needs to take into account the impact on society in order to be considered sustainable innovation [10] However, various definitions and meanings are available in different contexts, and the word “eco-innovation” has been used more frequently in environmental management processes by businesses and governments[33,12]. In this

way, it's crucial to grasp how eco-innovations are classified in order to fully appreciate their qualities and transform them into effective traits for the sustainable business sector [12].

In the past few decades, the importance of sustainability has increased in all commodity sector (Brunetti et al., 2013). and, in particular, in the footwear industry (Lopes et al., 2015), where many interventions have been carried out to offer a concrete answer to the need to adopt sustainable practices like reducing the number of substances that are usually used, reducing the amount of sound that produce by plant & machinery, increasing energy efficiency, improving the working conditions for those who design or produce shoes, or manufacturing footwear, etc.(Tartaglione and Corradini, 2013). For the purpose of defining innovation, especially eco-innovation, Christensen [6] provides a contrast between radical and incremental improvements, which are: (i) Incremental adjustments are improvements that are made gradually and continuously to competencies and modifications that preserve and sustain current relationships while adding value to the existing framework in which innovations are rooted; (ii) Radical changes, on the other hand, are discontinuous modifications that aim to replace current structures and elements and/or the development of new networks as a substitute for competencies.

RESEARCH METHODOLOGY

This research is characterized as theoretical in nature. As for its technical procedures, it corresponds to a bibliographic study, as we address data and verifications stemming

directly from previous literature on the subject. The perspective's objectives are classified as exploratory and descriptive, since they seek specific information and characteristics of what are being studied [11]. A research technique called content analysis is used to find specific words, themes, or concepts in a given set of qualitative data, such as text. Researchers can quantify and examine the occurrence, significance, and connections of these particular phrases, topics, or ideas using content analysis. For example, researchers may evaluate the vocabulary used in an article in order to search for prejudice or partiality. The meanings included in the texts—the author(s), the audience, and even the culture and time period surrounding the text—can all be inferred by researchers.

In the Scopus Database, the terms “sustainability,” “innovation,” and “leather and footwear industry” were defined. It includes all of the searches that turned up 86 articles over the previous 23 years that dealt with the subject. These data were divided into different research areas: 54% were related to environmental science, 37% to energy, 35% to business and management, 34 engineering, and 29% to social science and others shown in the figure one. However, because there are more articles in Sustainability with different sector but as per the requirement of research we include only Footwear and leather industry in relevant domain as indicated in Figure 1, our analysis concentrated on the environment, business mgt. and economics domain.

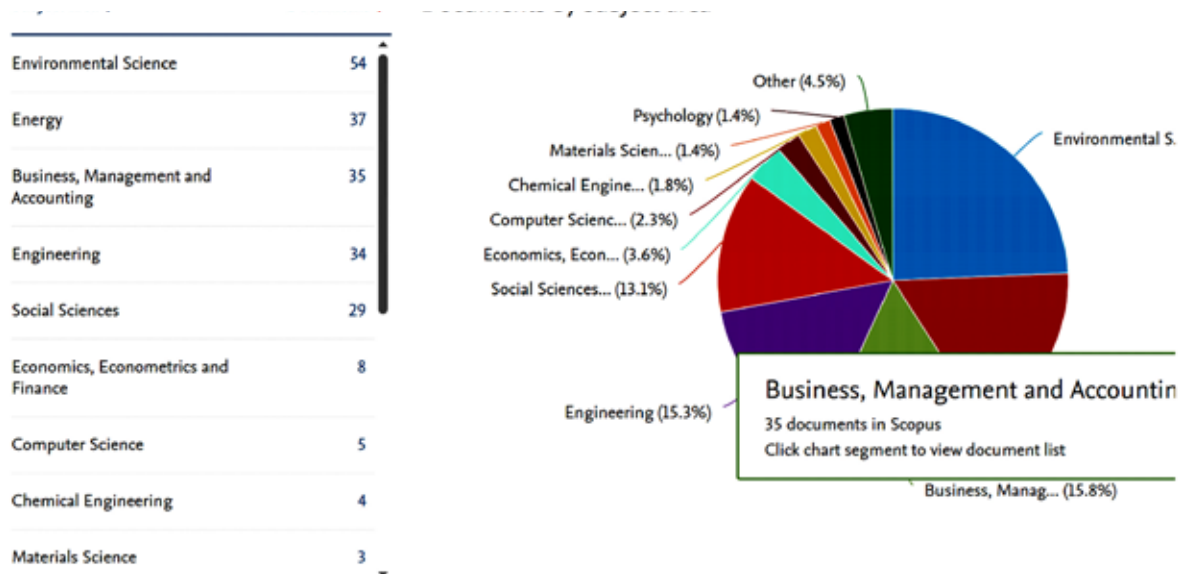


Figure 1: shows subject area classification.

A total of 30 papers were filtered repeatedly until the results were closer to the objectives of our research. The full-text reading of publications that don't contribute to the goal of our study is done without using up needless time thanks to these filters, which also serve to improve the research process. Some

factors were taken into consideration during the screening process: (1) The existence of duplicates or duplicate articles (2) Alignment with the footwear industry in the business and management sectors Journal articles are item numbers (3) for matching the article names and abstracts to the central idea and (4) for the accessibility of full-text articles. In order to add additional research, exploratory research was conducted with the search terms in Google Scholar at this point. There were a total of eight research papers that were not included in the SCOPUS database. The following papers were selected to make up the bibliography of our review: The list of publications linked to the theme “Sustainability and Innovation in the Leather and Footwear Sector”. These papers will be evaluated through bibliometric and content analyses.



Figure 2: Word cloud made by R studio.

Bibliometric analysis is a technique for identifying significant authors, journals, and keywords on a specific subject. Uriona Maldonado, Silva Santos and Santos [29] argue that these strategies are devices that rely on an analytical conceptual basis that is technically accepted, allowing the use of applications for methods to analyses information obtained and stored in databases. For the management and tabulation of the collected data, R Studio was used in the study. R Studio is software used to create bibliometric networks using information collected from bibliographical databases like Scopus and Web of Science. The application gives the user the option of using either the total or fractional counting approach [30]. This is using the graphical present relation of the author, relevant source plots, and thematic map analyses for the present research.

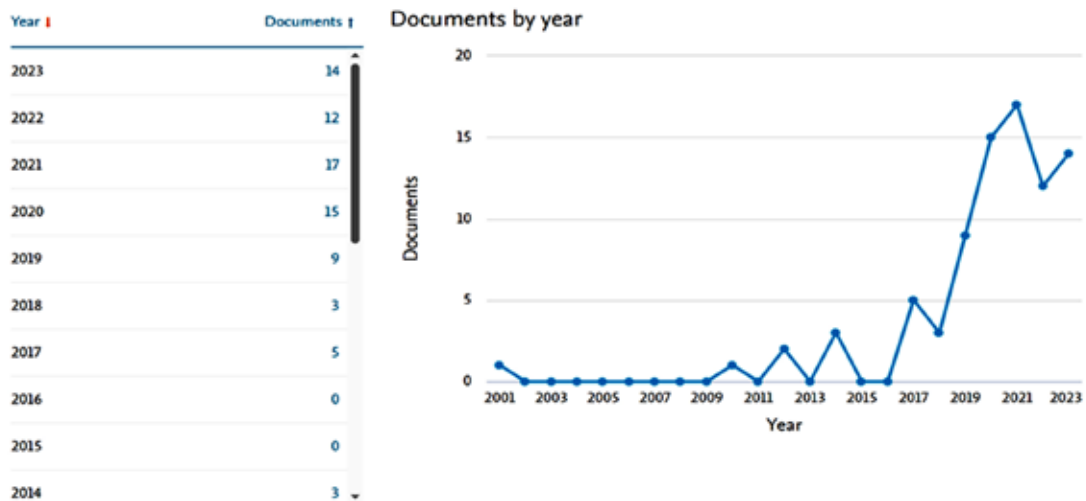


Figure 3: shows the chronological distribution of the articles

Above Figure no. 3 shows that in few decades, the importance of sustainability in footwear or other fashion industry Increased and which increase the scope of researchers to do work from the year 2019 to 2023 there were 67 app research papers written in this domain.

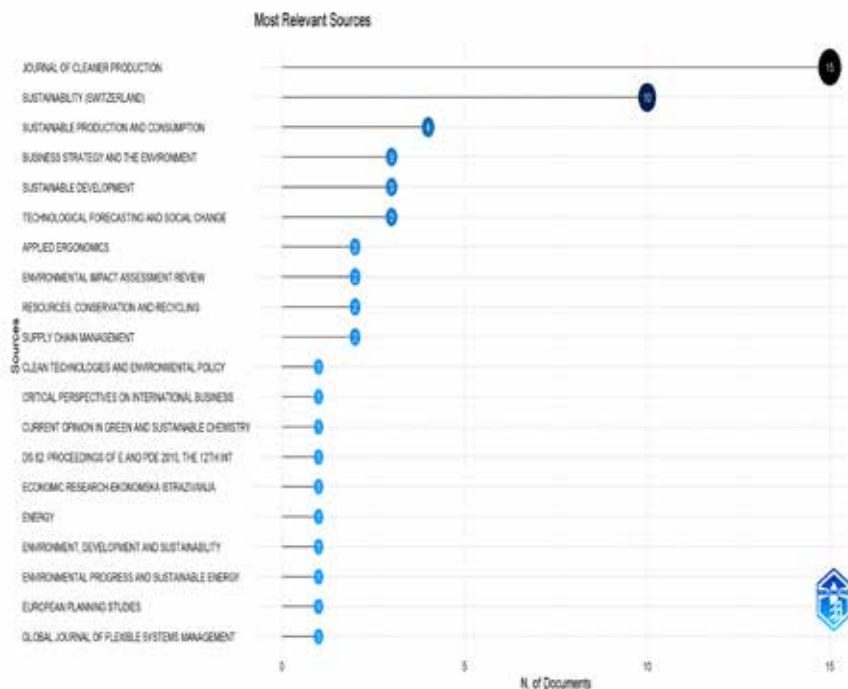


Figure 4

Source: Fig. 4 Scopus Database and analyze by R studio.

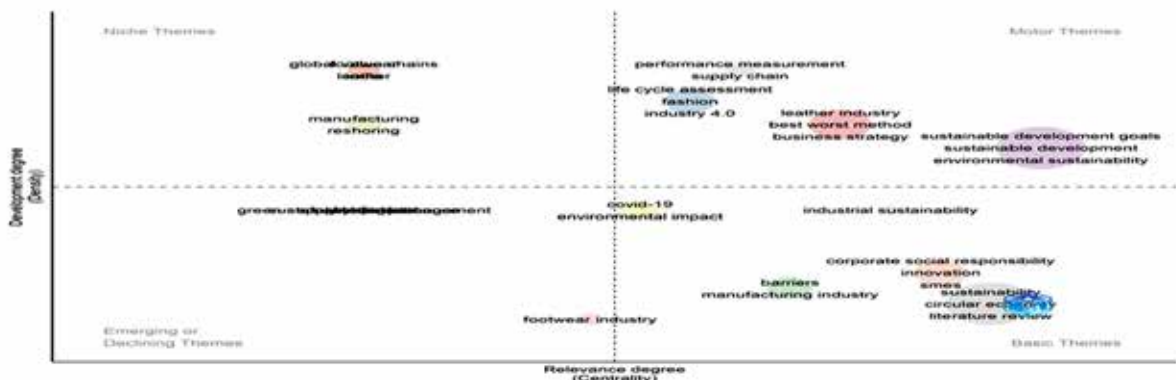


Figure 5: Thematic Map by R studio

Figure 5 shows Thematic Map in particular domain and divide into four parts Niche themes, Basic, Emerging and Motor themes. Emerging themes show less centrality, are less impactful, and show that with more research done in this domain (footwear industry), there is no relevance to doing research with keywords like “footwear industry.” Niche themes show high centrality but are less impactful, as does the motor theme, which shows doing work in this domain, i.e., sustainable goals or development with the leather and footwear industry as per the taken data, The basic theme shows the upcoming trend of keywords in this particular domain.

RESULT AND DISCUSSION

The researcher's first step towards conducting a study and increasing their expertise in a particular area is to do a literature review. Additionally, it provides an introductory viewpoint for the creation of a study and describes all of the available scientific knowledge. Additionally, it increases the researcher's familiarity with the issue, enabling new definitions and constructions. The reader is informed of the findings of other studies that are directly relevant to the work being done and or being researched, according to Creswell [8], which supports this statement. This action encourages more discussion about the topic, adding to the body of knowledge, bridging gaps, and expanding earlier research. According

to Lacerda [19], as information systems have advanced, using databases (indexed systems) has made it easier to find references and build theoretical frameworks for new research.

Diniz et.al (2015) several aspects of innovation were examined separately and in pairs using the survey findings, which were collected from Statistics Portugal. The lack of a culture that values innovation was noted as a major accomplishment. Innovation was mostly found in the product and process aspects. Additionally, it was established that when businesses adopt an innovation strategy, it typically manifests across multiple dimensions. Macchion et. al (2017)...A survey of significant Italian fashion enterprises was performed for the report, which focuses on the fashion sector. The major findings of the study unequivocally demonstrate the

beneficial effects of these practices on innovation performance. The study also establishes that globalization has a moderating influence on the relationship between innovation performance and the sustainability of the environment. According to this viewpoint, one of the most challenging industries is the fashion industry (Caniato et al. 2011). Industry scandals involving sustainability have, in fact, damaged the reputations of companies like Nike, Levi Strauss, Benetton, and Adidas (Seuring and Müller 2008). For developing nations like Bangladesh that want to become sustainable in the leather sector, the solid waste produced by the industry is an important issue for the environment. Aside from having an extreme socioeconomic impact, improper management of such hazardous leather solid wastes (LSWs) has a negative impact on public health. Therefore, regulating such LSWs is crucial for preserving the environment and enhancing socioeconomic conditions. In this sense, ecologically acceptable as well as economically advantageous energy generation methods include biogas and biofuel [22]. Manufacturing leather not only satisfies social development needs but also advances the world economy [16]. According to reports, processing a tonne of wet salted hides or skins can result in 200 kg of finished leather, 350 kg of non-tanned solid waste, 250 kg of tanned solid trash, and 200 kg of wastewater waste [20]. About 6 million tonnes of solid waste get generated every year in the global industry of leather processing [23], while China and India manufacture the majority of that amount at individual rates of 1.4 million tonnes [37] and 150,000 tonnes [17] respectively. However, similar tanned particles contain quantities

of acids, alkalis, salts, heavy metal ions, and collagen that endanger the environment, human health, or squander available resources. As a result, the literature identifies many workable strategies for preventing and reducing pollution from leather solid waste and using resources that are urgently required [19]. The treatment or utilisation of these solid wastes has been the subject of numerous studies, some of which have been previously reviewed, such as Rouse et al.'s summary of keratin-based biomaterials for biomedical applications [24]. The dissolution, extraction, and biological applications of keratin were first described by Shavandi et al. [27] and investigated several techniques for recovering and using portentous wastes from leather production that have been chromium-tanned [26].

According to the HDFC Banking and Investment Advisory Group's (2018) research on the footwear sector, the Indian footwear industry is claimed to have played an essential part in the economic growth of the nation. As the world's second-largest buyer of shoes, India beat the US in 2017 (Gupta and Kaur). It produced 9% of the 22 billion pairs produced annually in the world (Bata India 2019). But according to Sawalha et al. (2019), water reuse, the environmental impact, and de Aquim, Hansen, and Gutterres (2019), the leather industry is having issues with wastewater processing and tanning. The adoption of I4.0 technology by the footwear industries in developing countries like India has increased recently (Majeed and Rupasinghe 2017). However, organisations are constantly having trouble keeping up with the rapid changes in popular sectors, including sports, health, clothes, and accessories [34]. As a result, it is

necessary to identify the obstacles to sustainable I4.0. I4.0, which establishes a working environment of integrated productivity between humans and robots, has a great vision of transforming the industry. The implementation of I4.0 in developing nations like India, however, requires consideration of sustainability. The study shows that mainly nine barriers are causal, while eleven barriers are in the effect group. The most significant barrier, according to the analysis of the finding, is “lack of new organizational policy”. Therefore, it may be claimed that Indian organisations lack an effective plan to deal with I4.0 implementation difficulties. It could be argued that Indian organisations lack a suitable approach to handling I4.0 implementation difficulties. It could be argued that Indian organisations lack an effective approach to dealing with I4.0 implementation difficulties. Additionally, “SAMARTH (Smart Advanced Manufacturing and Rapid Transformation Hub (SAMARTH) UDYOG BHARAT 4.0”) has been introduced by the Indian government, which may be a smart decision. Lack of client feedback and cooperation towards I4.0 and sustainable practices is the second important hurdle which shows that India are still not getting the working together and cooperating trick. Because India is a developing country, the third major obstacle is the “lack of infrastructure.” technology, and resource transfer. Lack of support from management, which can provide both financial and emotional backing for I4.0 adoption, is the crucial barrier. Lack of financial support as implementing I4.0 necessitates significant investments in technology, resources, personnel, and procedures.

Innovative path and sustainability by Foot-wear Firms

One of the oldest shoe companies in the world took a risk by introducing the Jazz Court RFG, their most environmentally friendly shoe to date. There is zero plastic in the universal silhouette. Instead, it is built entirely of seven natural components and nothing else. Durable rubber serves as the sole, wool serves as the insole, eucalyptus fiber serves as the material for the shoelaces, and cotton and jute serve as the material for the top. Gardenia flowers and beets were employed as coloring agents, and the latter was also utilized to make the ink required to stamp the sizing information on the labels of the insoles. The Swedish shoe company Icebug uses surplus wool from neighboring Wool power's regional production in the north of the country for their sneaker Eide. Wool's inherent characteristics offer it remarkable thermoregulatory abilities, including the ability to be chilly when it's warm and warm when it's cold. Furthermore, Icebug claims that the super-comfortable design is a result of the soft and cozy upper and the BUGforce EVA midsole's BLOOM foam, which is made up of algae biomass. Other environmentally friendly features of the Eide include a partially recycled rubber and wool liner in the outsole, and recycled polyethylene and fishing nets in other areas.

Fast fashion items create 10% of all human carbon emissions and are promptly disposed of in landfills. Instead, choose eco-friendly, slow fashion that honors the natural world's elements. It's time to stop supporting the synthetic footwear business, which uses tons of water and other resources and harms the

environment's basic foundation. They engage in unethical production and the exploitation of workers in third-world nations, which we should avoid. By going deeply into nature and discovering a more sustainable method of producing shoes, we may interrupt this cycle of unending pollution and environmental harm. It's time to reflect on our decisions. It's time to alter the status quo. With this goal in mind, Neeman's has developed natural footwear alternatives made of materials like merino wool, which is known for its renewability, unrivaled comfort, breathability, and light weight. Sheep husbandry has a reputation for using hazardous methods and abusing animals. Neeman's, however, takes a fresh and responsible stance on it. Neeman's Footwear assures that all sheep farms strictly conform to the highest ethical standards and produce wool that is not mulesed. Neeman's undertakes a new project with the utmost dedication to preserving the integrity of the environment. Neeman's is the Indian shoe brand who offers the first-ever environmentally friendly green footwear while the entire world focuses on saving the environment. Neeman's

reduces carbon footprints by using organic and ecological materials. In addition to being of the highest quality, the materials used for the packaging, insoles, and soles are also all environmentally friendly. Neeman's is credited with coming up with the idea to introduce previously unheard-of and unexplored materials and for managing research and development. Quantis, a sustainability consulting firm, states that studies reveal that the manufacturing of sneakers is responsible for 1.4% of the world's greenhouse gas emissions. And let's not overlook the fact that India ranks as the world's 15th worst polluter of plastic. Neeman Company has brought a number of ground-breaking fibers to the Indian market. Merino Wool Sneakers, the finest and softest wool produced by Australian Sheep, served as the starting point for the adventure. They are suitable for wearing throughout the year. People have valued eco-friendly pairs created from environmentally hazardous components and fibers that are natural. This response suggests that Indian consumers are receptive to comfortable and environmental footwear.

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ⁱⁱ <https://www.statista.com/topics/4571/global-footwear-market>.

ⁱⁱⁱ <https://discover.certilogo.com/blogs/insights/sustainability-in-footwear-industry>.

^{iv} Bata India. 2019. <http://www.insidesimplefinance.com/bata-india-com-pany-analysis/assessedon04February,2020>

^v <https://neemans.com/blogs/articles/eco-friendly-footwear-for-a-sustainable-lifestyle>

^{vi} <https://neemans.com/blogs/articles/eco-friendly-shoes>

SYSTEMATIC MAPPING OF THE FOREIGN EXCHANGE RATE-STOCK MARKET RELATIONSHIP USING BIBEXCEL AND VOSVIEWER

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ABSTRACT

Empirical research work has been done to comprehend the relationship between foreign exchange rates and the stock market. This review article provides a proper framework for the published work in this research area. The published research work is collected from the Scopus database, and bibliometric analysis is done using Bib Excel and VOS viewer. Apart from getting bibliometric results of the collected data, the findings of most cited papers are also piled up. The mixed findings of the published articles confirm the existence of a significant relationship between the stock market and foreign exchange rate. Still, the robustness of connection is highly dependent on the economic particulars of any country. It is also analyzed that the relationship appears more potent in the crisis period. This systematic analysis facilitates researchers to focus on this research area to get a more specific conclusion in this research area.

Keywords: Foreign exchange rate, Stock market, Bibliometric, Bib Excel, VOS viewer, Systematic analysis.

INTRODUCTION

Stock market and foreign exchange rate are always considered as evocative of the economic development of a country. Due to globalization, expansion in transnational trade, and the flexible foreign exchange rate in economically rising countries, the stock market, and foreign exchange rate became interdependent. It turned into a concern for researchers and financial economists to explore the interconnection between the stock market and exchange. The info provided by this relationship is frequently used to forecast the future trends of fundamentalist investors and financial economists. The retrospect of literature examined the dynamic link between the stock market and foreign exchange rates in theoretical and empirical ways.

Theoretically, the interconnection of the stock market and foreign exchange rate and is explained by two models, namely (Figure 1), flow-oriented model (Fischer, 1980) and stock-oriented models — portfolio balance model (Branson, 1979 and Frankel, 1983) and monetary model (Gavin, 1989). According to the flow-oriented model, any change in foreign exchange rates affect trade

balances and international competitiveness, influencing output and real income, hence the stock prices. On the contrary, the monetary model states, the variations in stock prices affect aggregate demand through wealth and liquidity effects, thereby influencing money demand and foreign exchange rates. The portfolio balance model is based on the fact that the stock prices

are always determined by the current values of the future cash flows, so any variation in the underlying currency value plays a substantial role in share price movements. This model concludes, the stock market is sensitive and affected through variation in foreign exchange rates. It concludes stock market is influenced by foreign exchange rates directly.

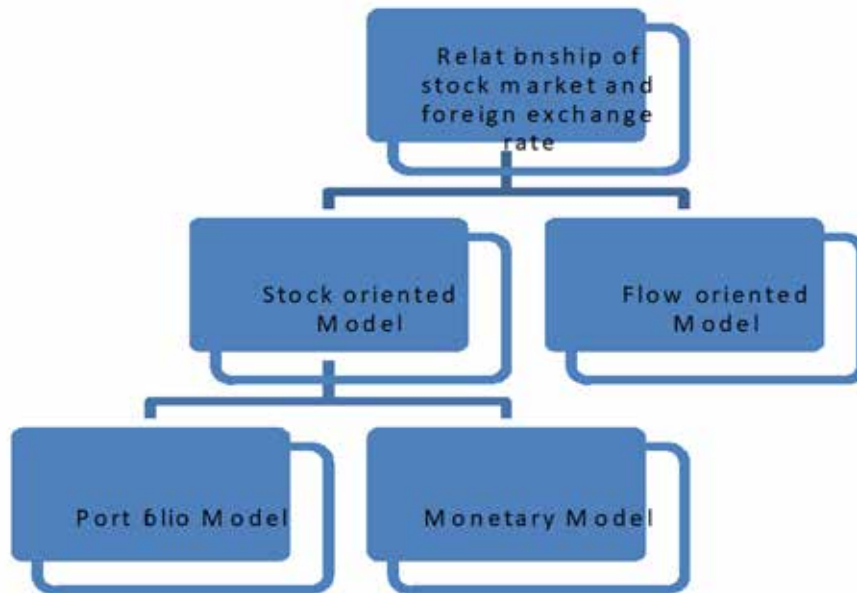


Figure1: Theoretical Models: Relationship of Stock Market and Foreign Exchange Rate

For the past three decades, the interconnection of the stock market and the foreign exchange rate has been analyzed empirically in various ways. The findings of the research work are relatively varied concerning significance, duration, and direction of the impact on each other. Most empirical studies found a significant relationship between the stock market and foreign exchange rate (Soenen & Hennigar, 1988; Phylaktis and Ravazzolo, 2005; Ning, 2010; and Seong, 2013).

Some previous studies also revealed that the interconnection of the stock market and foreign exchange rate is not persistent for a long time (Komain, 2012; Kutty, 2010; and Zhao, 2010). In contrast to these studies, some studies found evidence of long-term association in the stock market and foreign exchange rate (Yau and Nieh, 2009; Diamandis and Drakos, 2011; and Singh, 2015). Some researchers focused on the connection between the stock market and foreign exchange rate (Khan and Ali, 2015 and Aydemir and Demirhan, 2009).

Some of the studies in growing literature even focused on volatility spillover among stock market and foreign exchange rate (Yau and Nieh, 2009; Mun, 2007; and Yang and Doong, 2004). However, none of the previous studies grasp the overall structure of an intellectual landscape and analyze the intrinsic link between some key literature.

The scientific bibliometric analysis is an approach to get deep info of most producing and influencing authors, most contributing countries, most publishing journals, mostly used keywords, etc., in the particular research field. This study aims to statistically analyze the empirical work done in this research area to explore the interconnection of the stock market and foreign exchange rate. This study represents the existing studies systematically to get extensive knowledge of the published work about publication year, author, journal, most productive countries, etc. The main objectives of this study are classified into three points:

- (1) To recognize the overall research status in a way, to get in-depth information of development in the publication in past years, most contributing author, most productive country, most frequently used keywords, and finally, most cited papers in this research field.
- (2) To visually represent integrated knowledge about the documents co-citation, co-author, and keyword co-occurrence to detect emerging topics for this domain, this article will explore distinct natures of studies comprising diverse research perspectives and links among them.
- (3) To compile the findings of the most cited paper in this research area and drive a conclusion regarding the relationship between the stock market and foreign exchange rate.

The remaining paper is structured as follows; section 2, “Data and Methodology,” describes the data collection, research tools, and research process and section 3, “Results” of different bibliometric analyses with visual presentations. Lastly, section 4, “Summary and Discussion,” encloses the comprehensive summary of the systematic literature analysis.

DATA AND METHODOLOGY

Data

The significance of a systematic literature review is based on the two metrics. First, the published research work and articles should be collected from a reputable database. And secondly, use of relevant keywords to cover substantial published work in the research area. To collect relevant published research work in the required field, two steps are followed.

- a. First, to decide which database should be adopted, like Scopus, ISI Web of Science (WoS), or Google Scholar (Olawumi and Chan, 2018). Plus, to decide appropriate keywords to find almost all published articles in the research field. In this study, the research papers are collected from the core collection of the Scopus database. Scopus is a reputable and comprehensive bibliographic database that gives wide-ranging access to journal articles. It is one of the famous scientific citation key data sources in the world.
- b. Second to choose appropriate keywords to cover the research area. In this paper, the data is searched using the following keywords — stock market, stock, stock price, stock return, and foreign exchange rate. To cover all articles, we didn't control the time-span ranges of the

data set. The total number of article records obtained through the database search process is 872. After screening the objective and abstract of the research papers, we removed

some articles, and the final records for our dataset were reduced to 341. The complete data collection framework of this study is represented in figure 2.

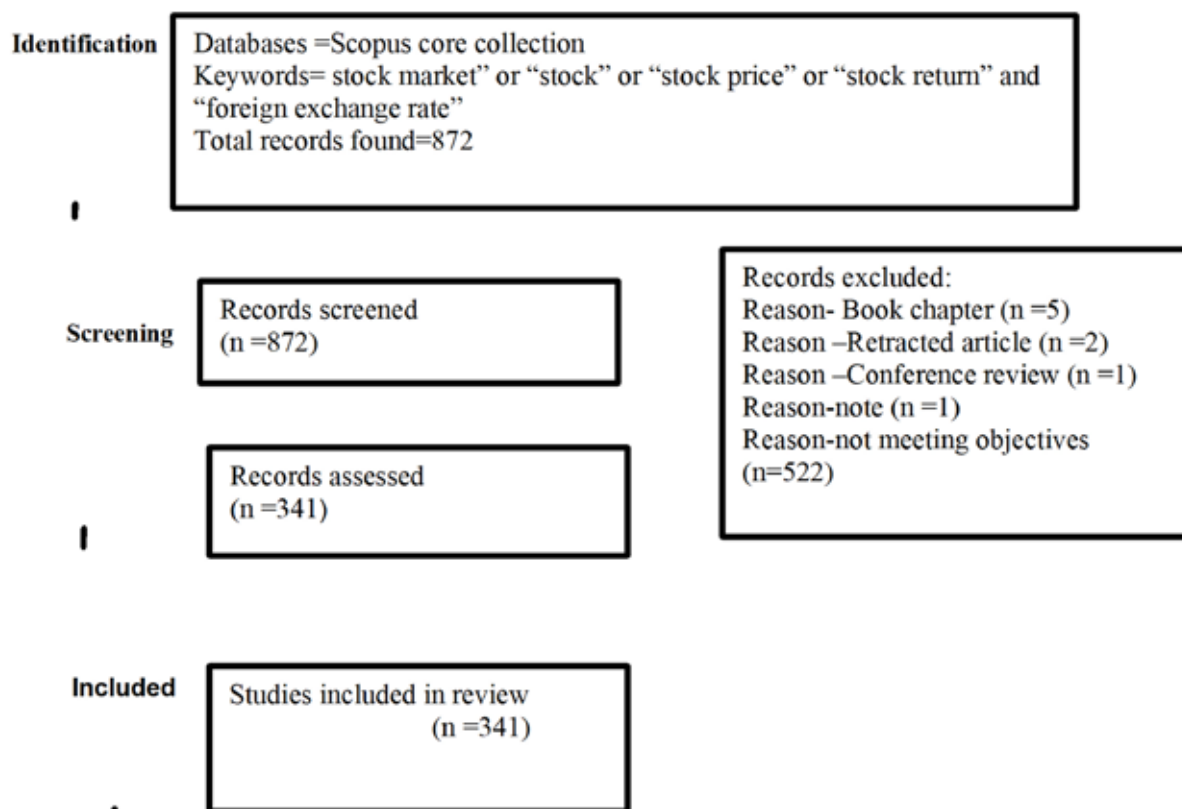


Figure 2: Data Collection Framework

METHODOLOGY

To do systematic scientific mapping of research papers, we used BibExcel and VOSviewer software programs. BibExcel works as a tool for bibliometric analyses to get specific information regarding the research development in previous years and performance of journals, authors, countries, frequently used keywords in an

identified research field. And VOSviewer helps in the visual representation of analysis. VOSviewer is used to visualize bibliometric maps. In this study, VOSviewer was used to analyze the co-occurrence of keywords, co-cited authors, and co-cited documents. The complete framework of bibliometric analysis presents in figure 3.

Bibliometric analysis	Article type
	Publishing year
	Journal analysis
	country analysis
	Author and co author analysis
	Keyword and co-occurrence of keywords analysis
	citation and co citation analysis
	Main features of most cited papers

Figure 3: Framework of Bibliometric Analysis

RESULTS

Article Type

Total 872 collected records were collected from Scopus core collection using keywords such as stock market, stock, stock price, stock return, and foreign exchange rate. After screening the objective and abstract of the collected data, only 341 articles were identified as relevant contributors in analyzing the relationship between the stock market and foreign exchange rate. Types of articles are analyzed with the help of BibExcel. The outcome of analysis shows, among all the publications — 316 are research journals (92.7%), 21 are conference papers (6.2%), and only four are review papers (1.1%) (fig4).

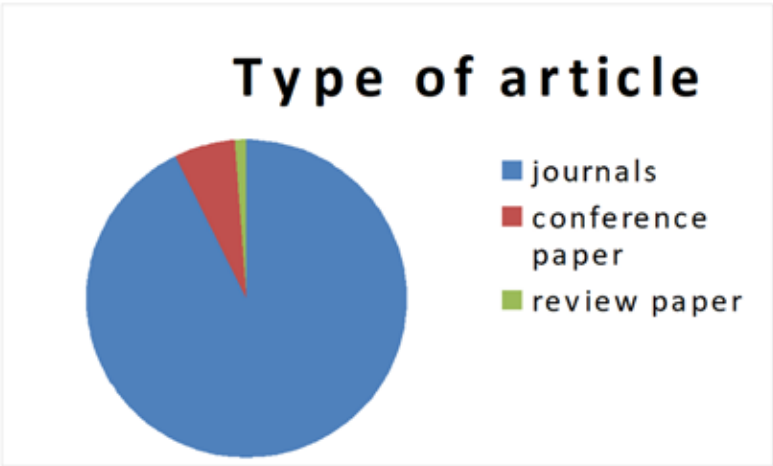


Figure 4: Types of Article 3.2 Publishing Year Analysis

Publishing Year Analysis

Figure 5 presents a picture of the number of publications done in this research field in the Scopus database. It shows an enormous upsurge in research publication year by year after 2010. In 1996, only one article was published in the research area, which turned into 40 in number in 2020. The progress in the number of publications each year confirms the growing curiosity in this research area.

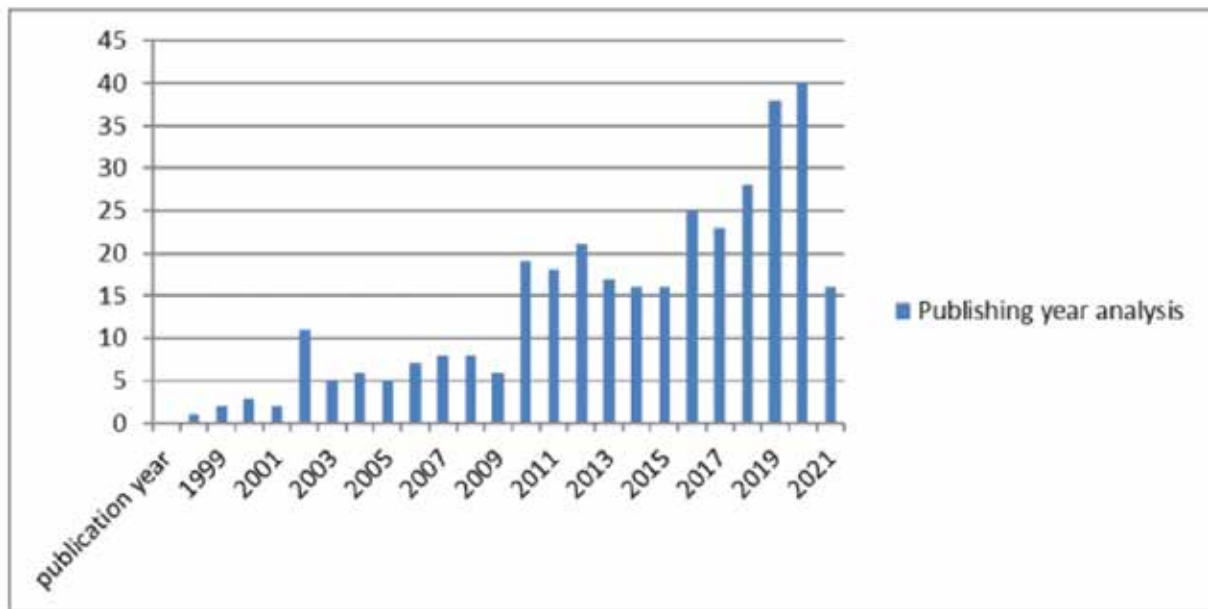


Figure 5: Publishing Year Analysis

Publishing Journal Analysis

The analysis results show a total of 187 sources of publications of the research papers in this area. Figure 6 displays the top 10 journals in which most articles are published in this research field. Out of 341 articles, 11 articles are published in Applied Financial Economics, nine articles are published in International Review of Economics and Finance, eight articles are published in Applied Economics, eight articles are published in International Journal of Finance and Economics, seven articles are published in Physica A: Statistical Mechanics and its Applications, seven articles are published in Journal of International Financial Markets, Institutions, and Money, six articles are published in Research in International Business and Finance, five articles are published in Savings and Development, five articles are published in Singapore Economic Review, and five articles are published in North American Journal of Economics and Finance.

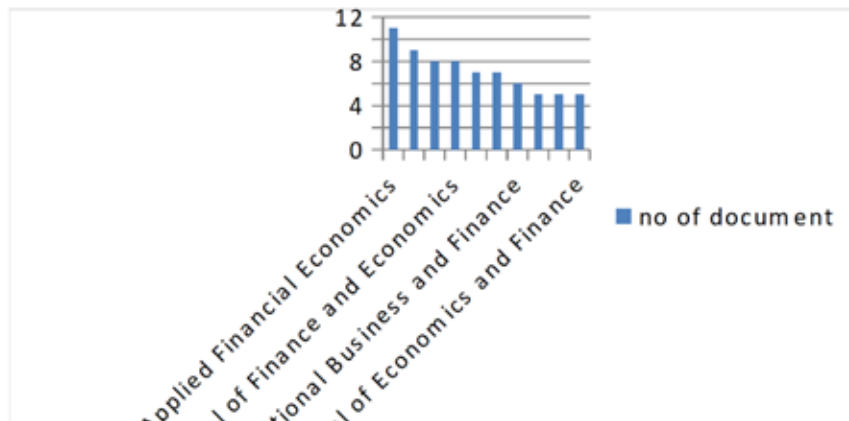


Figure 6: Publishing Journal Analysis

Publishing Country Analysis

With the help of BibExcel, it is easy to recognize the involvement of individual countries in the research area. There are 63 countries involved in researching the interconnection of the stock market and foreign exchange rates. Figure 7 represents the top 10 countries whose contribution in terms of the number of publications is the most. The result shows that China is the leading contributing country with 45 articles, after that United States (40 articles), Malaysia (30 articles), Taiwan (29 articles), United Kingdom (25 articles), India (24 articles), Pakistan (23 articles), Turkey (18 articles), Australia (17 articles), and Nigeria (13 articles) are contributing countries. It also shows that even though China has made the highest contribution in this research domain, the United States, Taiwan, and the United Kingdom are more cited countries than China.

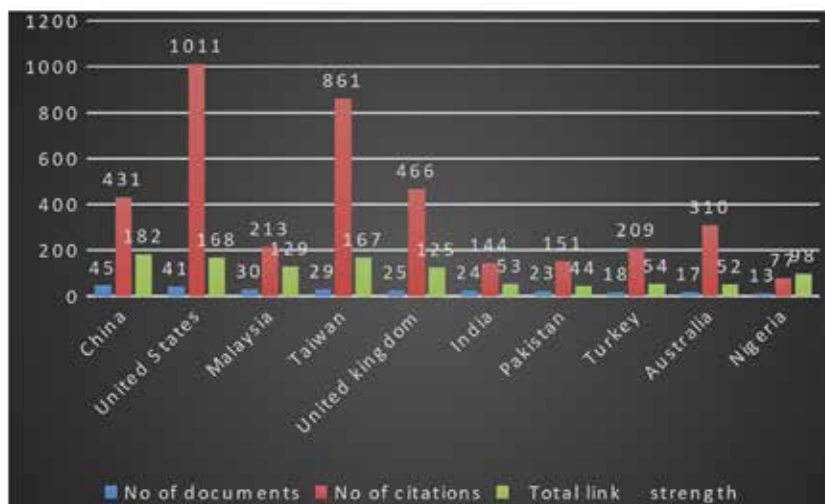


Figure 7: Publishing Country Analysis

Keywords and Co-occurrence of Keyword Analysis

Keywords are the phrases that reveal the central theme of the research work. The analysis of keywords helped the researcher to demonstrate the research field's development and structure. The results of the study found a total of 1091 keywords used in this research domain. Figure 8 represents the top 20 most frequently appeared keywords in the research area. It illustrates foreign exchange rate (176 times), foreign exchange rates (120), stock market (119), and stock prices (62) are primarily used keywords. Analyzing the co-occurrence of keywords is a way to find a connection between two keywords. The VOSviewer software helps to investigate the co-occurrence of keywords and represent it visually. Figure 9 shows four clusters of keywords in four different (red, green, blue, and yellow) colors with circles. The sizes of the circles represent the frequency of keywords, and each cluster shows a group of keywords. In the figure, total link strength shows many publications in which two keywords are used together.

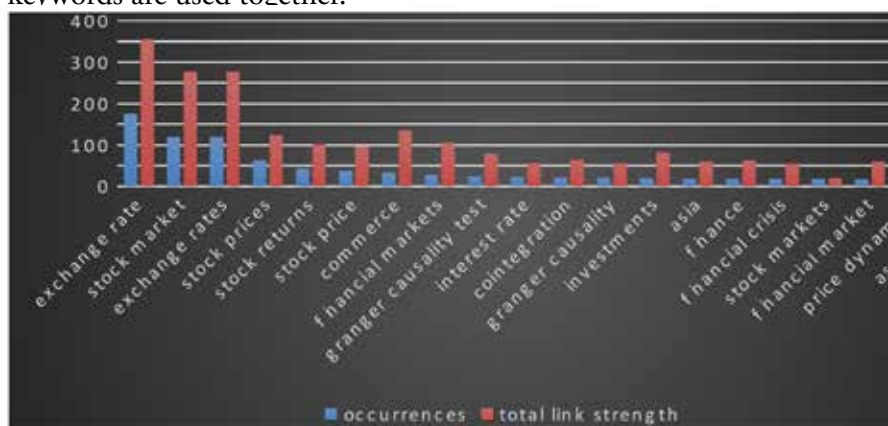


Figure 8: Keyword Analysis

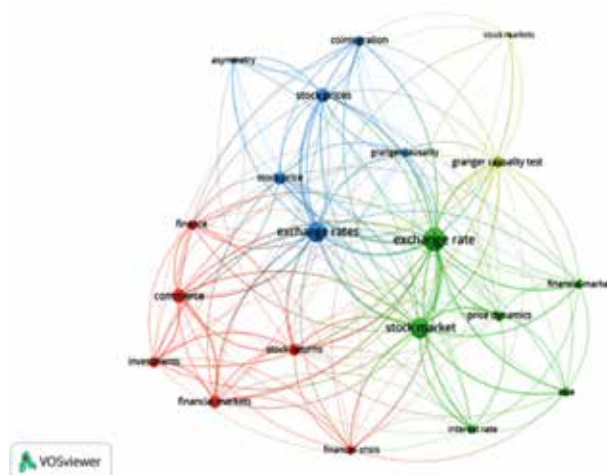


Figure 9: Co-occurrence of Keyword Analysis

Author and Co-author Analysis

The results show a total of 681 authors contributed to this research area. Figure 10 represents the top 20 most productive authors in the research field with full link strength. The result shows Zivkov D (6 articles) and Hsing Y (6 articles) are the most productive authors in the research area. However, CC Nieh (4 articles) and W Chkili (3 articles) have made less contribution through publication but have more citations than those two authors. From this, it can be suggested that CC Nieh and W Chkili are the most influencing authors in this research domain.

VOSviewer helps to represent co-authorship patterns visually. Figure shows 15 clusters in a different color to represent co-operation between authors. It shows GE Chortareas, Andrea Cipollini, and Mamdouh A Eissa worked together in three research papers (cluster1 in red color). It also shows out of seven papers contributed by D Zivkovy; four papers were contributed with CC Nieh (cluster5 in purple color). M Bahmani-Oskooee and S Saha, another group of authors (cluster2 in green color), contributed three papers together.

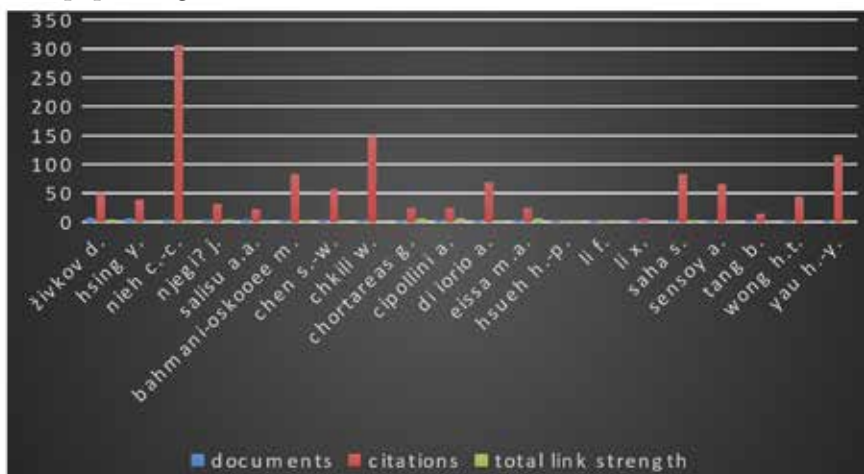


Figure 10: Author Analysis

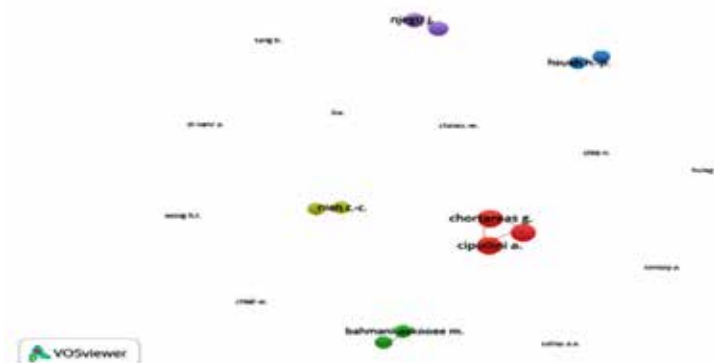


Figure 11: Network Visualization of Co-author Analysis

Citation and Co-citation Analysis

Citation analysis is measured as one of the best tools of bibliometric analysis. The number of citations indicates the effectiveness of the published article in the research field. The BibExcel and VOSviewer soft wares are the perfect tools to identify the number of times each article acknowledged. The result shows, 25 research papers received more than 80 citations (represented in tab1). The research paper titled, "Dynamic relationship between stock prices and foreign exchange rates for G-7 countries" is the most cited article with 667 citations.

Co-citation analysis represents the link between research-based articles cited by the same document (Van Eck and Waltman, 2020). In this paper, co-citation analysis is done by employing VOSviewer (figure12). The results show that "Dynamic relationship between foreign exchange rate and stock price: evidence from China" and "Stock prices and foreign exchange rate dynamics" are the most cited papers among these 341 papers.

Table 1: List of Most Cited Papers.

Cites	Title
667	"Dynamic relationship between stock prices and foreign exchange rates for G-7 countries"
488	"Dynamic linkages between foreign exchange rates and stock prices: Evidence from East Asian markets"
395	"Dollar foreign exchange rate and stock price: evidence from multivariate cointegration and error correction model"
367	"Dynamic analysis between the US stock returns and the macroeconomic variables"
340	"The relationship between stock prices and foreign exchange rates evidence from turkey"
331	"Dynamic relationship between foreign exchange rate and stock price: Evidence from China"
330	"Foreign exchange rate variability and the riskiness of US multinational firms: Evidence from the breakdown of the Bretton Woods system"
275	"Stock market volatility and foreign exchange rates in emerging countries: A Markov-state switching approach"
260	"Foreign exchange rate movements and stock market return in a regime-switching environment: Evidence for BRICS countries"
253	"The relationship between stock price index and foreign exchange rate in Asian markets: A quantile regression approach"
241	"The comovement between foreign exchange rates and stock prices in the Asian emerging markets"
229	"Bivariate causality between foreign exchange rates and stock prices in South Asia"

218	"Dependence structure between the equity market and the foreign exchange market—a copula approach"
196	"Dynamic linkages among oil price, gold price, foreign exchange rate, and stock market in India"
159	"On the linkages between stock prices and foreign exchange rates: Evidence from the banking crisis of 2007-2010"
157	"Dynamic linkage between real foreign exchange rates and stock prices: Evidence from developed and emerging Asian markets"
155	"Testing for cointegration with threshold effect between stock prices and foreign exchange rates in Japan and Taiwan"
134	"Downside and upside risk spillovers between foreign exchange rates and stock prices"
123	"Multifractal detrended cross-correlations between the Chinese exchange market and stock market"
116	"Do foreign exchange rate changes have symmetric or asymmetric effects on stock prices?"
101	"Japanese currency and stock market—What happened during the COVID-19 pandemic?"
90	"Volatility spillover effect between stock and foreign exchange rate in oil exporting countries"
87	"Relationship between oil, stock prices and foreign exchange rates: A vine copula based GARCH method"
84	"Foreign exchange rate volatility and stock market development in emerging economies"
80	"Untangling the non-linear causal nexus between foreign exchange rates and stock prices: New evidence from the OECD countries"

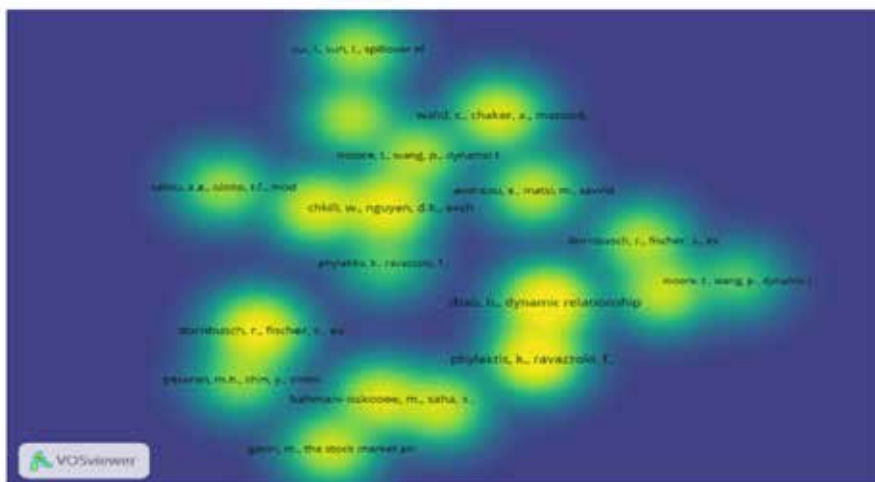


Figure 12: Density Visualization of Co-citation Analysis

Main Features of Most Cited Papers

For an in-depth understanding of the interconnection of the stock market and foreign exchange rate, it is vital to give proper consideration to the findings of the research work in this domain. Table 2 provides a brief overview of the research papers listed in table 1. It includes the author's name, year of publication, research methodology, countries involved, and findings of these papers.

Table 2: Main features of Most Cited Papers.

Authors	Year	Research methodology	Countries	Findings
CC Nieh, CF Lee	2001	Johansen Multivariate Maximum Likelihood co integration test and Vector error correction model	G-7 country	No long-run relationship exists.
MS Pan, RCW Fok, YA Liu	2007	Granger causality tests, a variance decomposition analysis, and an impulse response analysis	Hong Kong, Japan, Korea, Malaysia, Singapore, Taiwan, and Thailand	The relationships vary amongst different economies with regard to foreign exchange rate regimes, scope of equity market, trade size.
H Zhao	2010	Vector auto regression and autoregressive conditional MGARCH models	China	No long-run relationship but the bidirectional volatility spillovers exist.
CH Lin	2012	Autoregressive distributed lag (ARDL)	Asian emerging markets	Co movement between these variables become stronger during crisis period and spillover exists from stock market to foreign exchange rates.
C Ning	2010	Copulas model	US, UK, Germany, Japan, France	Significant symmetric relationship exists
IC Tsai	2012	Quantile regression	Asian countries.	Significant relationship exists but path and significance of the relationship depend on the market conditions.
A Jain, PC Biswal	2016	Dynamic conditional correlation (DCC)-GARCH model and Non-Linear Causality test	India	Significant positive co exists.
G Cao, L Xu, J Cao	2012	MF-DCCA method	China	Cross-correlations are sensitive to foreign exchange rate.
C Walid, A Chaker, O Masood, J Fry	2011	Two regime Markov switching-EGARCH model	Hong Kong, Singapore, Malaysia and Mexico	Asymmetric and regime dependent relationship exists

K Kim	2003	Johansen's cointegration	United States	Negative relationship exists.
W Chkili, DK Nguyen	2014	Markov regime-switching model VAR models	BRICS	Unidirectional significant impact on foreign exchange rate from stock market except south Africa.
JC Reboredo, MA Rivera-Castro, A Ugolini	2016	VaR and the CoVaR m copulas	emerging	Positive relationship and bidirectional spillover risk effects exist.
O Ratanapakorn, SC Sharma	2007	Vector error correction model	United States	Long run positive relationship exist.
T Moore, P Wang	2014	Dynamic conditional correlation (DCC) bivariate GARCH model	Indonesia, Malaysia, South Korea, the Philippines, Singapore, Thailand and US	Significant dynamic relationship exists but degree of relationship depends on the maturity of financial market.
GM Caporale, J Hunter, FM Ali	2014	Bivariate UEDCC-GARCH models	US, the UK, Canada, Japan, the euro area, and Switzerland	Significant granger causality exists but direction of causality varies among countries also interaction increased during crisis period.
R Smyth, M Nandha	(2003)	Engle–Granger two-step and Johansen cointegration methods	Bangladesh, India, Pakistan and Sri Lanka	No long-run relationship but unidirectional causality exists.
O Aydemir, E Demirhan	2009	Toda-Yomamoto (TY)	Turkey	Bidirectional causal relationship exists.
HY Yau, CC Nieh	2009	threshold error-correction model (TECM)	Japan and Taiwan	Long-term and asymmetric causal relationships exist
PK Narayan, N Devpura, H Wang	2020	GARCH-M model	Japan	Negative relationship exists and the relationship has become stronger during COVID-19
AY Mikhaylov	2018	FIGARCH model	Russia and Brazil	Bidirectional volatility spillover effect exists.
M Bahmani-Oskooee, S Saha	2016	Non-linear ARDL approach and error-correction modeling	Brazil, Canada, Chile, Indonesia, Japan, Korea, Malaysia, Mexico, U.K.	Short run asymmetrical effects on stock market from foreign exchange rates exists.
M Hajilee, OM Al Nasser	2014	Bounds testing approach and error-correction modeling	12 Emerging economies	Both short- and long-term effect on stock market development from foreign exchange rate volatility exists.

SW Chen, TC Chen	2012	Vector error correction model, the bounds testing methodology and linear and non-linear Granger causality	12 OECD countries	Both short- and long-term bidirectional relationship exists.
R Aloui, MSB Aïssa	2016	A vine copula based GARCH method	United States	A significant and symmetric relationship exists.

SUMMARY AND DISCUSSION

Analyzing the interconnection of the stock market and the foreign exchange rate has become a matter of interest for researchers, economists, and financial investors, as understanding the dependence structure of these markets assist in identifying the behavior of these markets. Based on theoretical and empirical studies, this piece of research intends to deliver a gist of the existing literature on the nexus between stock-exchange markets through systematic literature review analysis.

To certify the integrity and eminence of the scientific analysis, the leading data is obtained from the Scopus core collection. Two kinds of bibliometric analysis tools, BibExcel, and VOSviewer, are employed to perform bibliometric analysis on the collected data, to form the corresponding knowledge map based on article type, publishing year, keyword and co-occurrence of keywords, publishing journal, most productive country, most productive author and co-author, most cited research work and co-citation analysis, which are intended to provide references and basis for future research in the field.

Results show that publication in the research area is increasing year by year, with a rapid surge in publications since 2015. Keyword and co-keyword analysis show a list of words used as keywords, which gives dimensions to the research domain. The results of other bibliometric analysis show in the table3.

Table 3: Result of Scientific Bibliometric Mapping.

Most publishing journal	"Applied Financial Economics"
Most producing country	China
Most cited country	USA
Most productive author	Zivkov D and Hsing Y
Most cited author	Nieh c.-c
Co-author-most linked	chortareas g.,cipollini a. and eissa m.a.
Most cited paper	"Dynamic relationship between stock prices and foreign exchange rates for G-7 countries"
Most cited reference	"Dynamic relationship between foreign exchange rate and stock price: evidence from china"

Most co-cited papers	“Dynamic relationship between foreign exchange rate and stock price: evidence from china” and “stock prices and foreign exchange rate dynamics”
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The findings of the most cited research paper in this area provide mixed conclusions about the nexus between the stock market and foreign exchange rates. It can be concluded that the strength and direction of this relationship are primarily dependent on the economic conditions of a country. Also, the connection gets stronger during a crisis period.

This scientific bibliometric analysis gives a deep understanding of the published work analyzing the relationship between the stock market and foreign exchange rates. It can be used as reference points by researchers and/or other stakeholders interested in gaining more knowledge in the research field. The mixed findings of the published area compel further consideration and more recent data and new econometric tools.

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