

Key Financial Ratios Analysis for Manufacturing Companies- A Bibliometric Analysis

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ABSTRACT

Many industries have recently expressed an interest in the financial sector. The financial industry has developed innovative financial services in several areas. Financing is a viable alternative to the traditional financial systems. Scopus identified 668 publications relevant to the scope of this study. Many instruments were used to create the graph, including the Scopus dataset, Microsoft Excel for journal citation analysis, and VOSviewer for data visualisation. The purpose of this study is to identify the most influential studies and authors, to expose the distribution and impact of publications in key financial ratio analysis for manufacturing from the Scopus database between 1986 and 2021. The results show that Italy, China, and the United Kingdom. are the most influential journals. According to this study, key financial ratio analysis research was clustered into four categories. Computer science, business administration, economics, and social sciences such as psychology, art, and humanities, among others, indicate a systematic map and schematic of previous research. To develop products, the manufacturing industry must use inventory, equipment, and employees optimally. The findings create a complete map of the existing research.

Key Words- Financial ratios, Manufacturing Companies, Bibliometric, Scopus, VOSviewer,

INTRODUCTION

Manufacturing industries have received scant attention despite the fact that they first appeared in the literature 35 years ago. It refers to companies and Finance 4.0 that develop low-cost financial technologies (Tepe et al., 2022). Industry 4.0 is already influencing areas such as manufacturing, supply chain management, construction, and shipping, among others, and will have an impact on many parts of our daily lives (Al-Ajlouni et al., 2018). Globally, manufacturing companies have been incorporated rapidly into human life in recent years (Dospinescu et al., 2021). Although each study contributes an important perspective on the topic, a bibliometric analysis can provide a wider perspective and evaluation than earlier studies (Al-Ajlouni et al., 2018; Appio et al., 2014).

A bibliometric examination of a network specifies new areas and information on the subject more strongly (Wasserman & Faust, 1994). It can also identify study groups and researchers to demonstrate how different schools of thought have formed (Andersen, 2021; Andrikopoulos & Economou, 2016). Finally, it can identify leading and influential researchers in these research groups, as well as different and novel concerns addressed by these influential academics and fields of study connected to these novel issues (Aguinis et al., 2011).

Starting with 668 studies concentrating on long-run key financial ratios, this study presents a complete and comprehensive analysis by selecting researchers and articles with strong influence in this category. For the bibliometric analysis, various performance indicators were calculated.

The information captured by the application was then shown using VOSviewer 1.6.18 programmes, as is the authorship distribution (Tepe et al., 2022; Yan et al., 2018).

Manufacturing industries are industries that convert things, that is, they are primarily manufacturing industries in their own right(Gundes et al., 2019), but they also include industrial equipment maintenance and installation, as well as subcontracting operations for private entities(Bhatt et al., 2020; Goodell et al., 2021). Effective planning and financial management are required for a long-term business and mission. Ratio analysis is a valuable management tool that can help you better understand financial outcomes and patterns over time, as well as provide vital performance indicators for your business(Chen et al., 2017; Zalan & Toufaily, 2017). Managers will use ratio analysis to identify strengths and weaknesses from which to develop strategies and initiatives. Funders may use ratio analysis to compare your results to those of other organisations or to make decisions about management effectiveness and mission impact(Arner et al., 2015; Sharma & Chowhan, 2014).

The relation of one variable with another, the influence one can have over the other, can be analysed through ratios. In the financial domains, ratio analysis offers a way to diagnose operational, functional and financial ills in an organisation, effectively(Abdulla et al., 2020; Abuzayed, 2012).

Out of the numerous, fundamental factors which contribute to strengthening economic stability are industrial upgrading and diversity (Yun, J.J.; Jung, K.; Yigitcanlar, T. 2018, 10, 16). To develop its products, Material, machinery, and staff must all be used effectively in a manufacturing enterprise. Financial ratios are used to evaluate a company's operations. These proportions can be used to evaluate the appropriateness of activities and the manufactured process' efficiency(Gundes et al., 2019).

Manufacturing industries financial ratios

To promote the significance of manufacturing companies to consumers, prospects, and others.

Inventory Turnover

The inventory turnover ratio is a measure of a company's ability to manage its inventory. Higher rotation rates minimise storage and other holding expenses, so achieving a high ratio is critical(Sunjoko& Arilyn, 2016). It is critical to compare ratios across companies in the same industry rather than between organisations in different industries. A lower inventory turnover ratio implies that inventory obsolescence or theft of corporate inventory is more likely to occur in a production entity(Kolias et al., 2011).

Interest cover ratio

Several profitability ratios, such as the profitability ratio, are used to assess a company's solvency. Businesses, investors, and financial experts can use it to quickly assess a company's present ability to pay down its debt's accumulated interest. The interest coverage ratio compares the annual interest expense to the amount the firm earns to determine the company's capacity to make interest payments when they become due(Drake & Fabozzi, 2012).

Return on capital employed.

Reducing costs, growing revenues, and paying off debt or restructuring financing are all options open to a company looking to enhance its return on capital employed ratio. The return on capital employed is a metric that gauges a company's profitability. It helps analysts assess how efficiently a company employs its available capital. Reduced expenditures or increased revenues are the most obvious places to start. Monitoring areas where expenditures are inefficient is a key aspect of operational efficiency(Andersson et al., 2006).

Manufacturing Costs as a Percentage of Overall Expenses.

A manufacturer incurs expenses when creating a product, as well as indirect costs required to run the business. From the perspective of an investor, it is preferable to have the majority of costs directly related to the product being manufactured rather than ancillary expenses such as supervisor pay or building rent. A financial statistic that quantifies this proportion is manufacturing costs to total spending(Klychova et al., 2015).

Unit Contribution Margin Ratio

This ratio can be used by an investor to assess the safety of a manufacturing organization. A manufacturing firm with a high contribution margin ratio will have an easier time paying fixed costs and will be a safer investment (Silvana et al., 2014).

Ratio of Earnings to Employees.

The income collected per worker is calculated by dividing a manufacturing company's total revenue by the number of employees. The calculation is used by an investor to determine a company's technological efficiency (McKnight & Cooper, 2020).

Return on Net Asset

A manufacturer generates money by utilising its assets, typically its inventory and machinery. As a result, the return on net assets is an essential financial metric (Sharma & Chowhan, 2014). A manufacturing corporation can measure how successful segments of its business are in utilising its assets to produce a profit for the company by dividing net income from a manufacturing plant by the division's net assets. This ratio should be used by investors to identify the most efficient manufacturing companies. The impact and contribution of the manufacturing sector on the global GDP is huge. In 2018, the sector accounted for almost 16% of the world GDP, creating and forming new pathways for inspiring manufacturing in countries like India and China with programmes like Make in India and Make in China, respectively. (ID: 5013542 Report March 2020 Region: Global Orion Market Research Private Limited) (Global Manufacturing Industry Impact of COVID-19 (Chakraborty et al., 2018).

THEORETICAL BACKGROUND

The term "bibliometric" originally appeared in the Journal of Documentation. Bibliometric (also known as scientometrics) is concerned with quantitative analysis, which is the primary tool of science. It offers a statistical examination of data, such as the frequency with which journal articles are published and analyses can be drawn between countries and scientific fields (Donthu et al., 2021).

The financial statement (created in accordance with a predetermined standard to offer the company's concerned parties' information on the company's financial status and managerial performance) is used in financial analysis.

Object analysis and ratio analysis are the two types of analysis. Object analysis might help you determine the fund's size in a more realistic manner. employs financial statements to demonstrate the relationship between each composing account in a ratio (Martínez-Climent et al., 2018).

RESEARCH METHOD USED.

The ultimate focus of a literature review analyses prior literature and similar topics on a research issue in order to produce objective conclusions that can be verified and replicated. Its purpose is to classify previous research and offer a concepts and procedures assessment of the findings. To demonstrate that the research contributes to the research, the outcomes should indeed be stated in relation to the research questions.

Questions to Consider.

In the current study, structural categorical analysis was used to key financial ratio analysis-related papers and academics. The following two basic research topics, as well as three sub-questions and two more, were addressed, as recommended by (Milian et al., 2019)

RQ1. What happened to the literature from 1986 and 2021?

RQ1.1. Which studies and writers have had the most impact?

RQ1.2. What's the most essential research for manufacturing companies in the field of key financial ratio analysis?

RQ1.3. What are the trends in the distribution and impact of publications throughout time?

RQ2. What are the primary themes in critical financial ratio analysis for manufacturing companies?

RQ3 What are the research directions that should be pursued in the future?

To respond to RQ1, organise the important studies, determine their links, and categorise them within the framework of current research.

METHODOLOGY AND SAMPLING

The scope of the major financial ratio study for manufacturing was determined using bibliometric analysis. In this discipline, original study content analysis is a highly extensive and complete analysis technique. To indicate that the study attempts to add to the body of knowledge, the results must be described in accordance with the study topic.

BIBLIOMETRIC ANALYSIS AND FINDINGS

Through bibliometric research, the most productive nations and institutions, or even the most notable authors, articles, and publications, are identified. Scopus provided the dataset for the study's major financial ratio analysis and bibliometric analysis, Scopus, on the other hand, was not included in the review because it contains far fewer research articles. The bibliometric research technique was used to determine the growth of the academic research on key financial ratios in the areas of RQ1.1, RQ1.2 or RQ1.3., and RQ 2 with a focus on the most influential publications, authors, institutions, countries, and research issues.

In bibliometric analysis, a variety of factors can be investigated. The analysis must, however, be appropriate for the objective. There are 3 types of indicators in this procedure: number, reliability, and fundamental factors (Martnez-Climent et al. 2018).

RQ2 deals with the question of which themes key financial ratio analysis. According to this study, a small number of journals produce all of the publications in that field

Table 1 This search criteria and article selection displays the analyses' results, time periods, publications, authors, and other information. A total of 668 scholarly papers on key financial ratios and research in manufacturing businesses were scanned in Scopus. For instance, academic journals, conference proceedings, publications, and book reviews 169 also specifies the number of articles discovered.

Factors for selection	Dismiss	Adopt
<i>Parameters for the search engine: Scopus Search date: 22 December 2021</i>	-	-
<i>keyword for search: "finance" OR "ratio analysis" OR "Manufacturing" AND "bibliometric"</i>	NA	668
<i>Subject field: Management, Administration, and Accountancy,' 'Economic analysis, econometrics, and finance,' 'Social sciences,' and 'Arts'</i>	279	389
<i>Type of paper : "Articles", "Conference papers", and "Conference Review"</i>	89	300
<i>Choosing an Article</i>		
<i>Screening of incorrect records: Include documents with valid author information only</i>		
<i>English screening: Only publications in English should be included.</i>	13	287
<i>Include publications if "Titles, abstracts, and keywords" show relevance to the scope of inquiry. (i.e. Key Financial Ratios analysis for Manufacturing Companies- A BIBLIOMETRIC ANALYSIS) only</i>	115	172
<i>1986-2021</i>	3	169

Table:2 The results, timeframes, publications, authors, and other information from the analysis are presented in this section. The number of articles discovered by year is shown in Figure 1.

Number of results : 169

YEAR	Number of results
2021	41
2020	29
2019	12
2018	17
2017	9
2016	9
2015	6
2014	3
2013	2
2012	1
2011	3
2010	1
2009	2
2007	1
2006	2
2005	1
1986	1

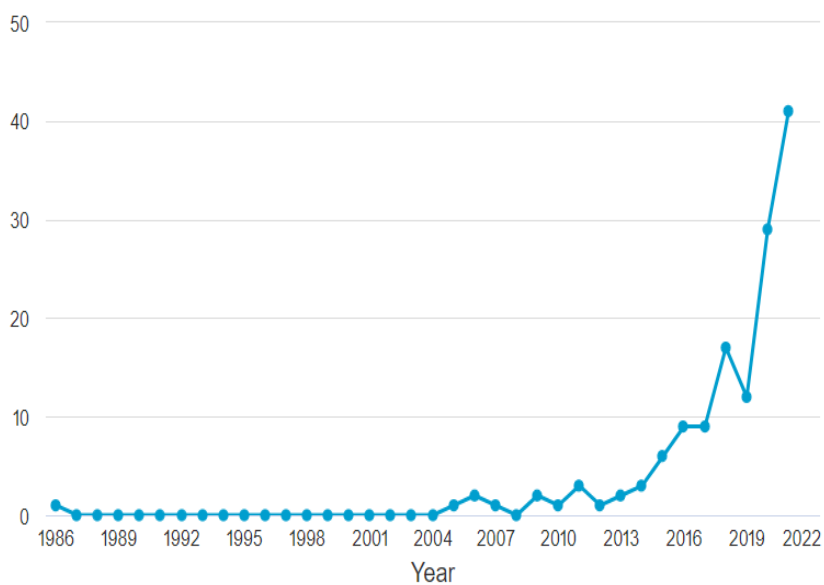


Figure 1. Trends in publishing, key financial ratios in manufacturing firms between 1986 and 2021, this graph depicts the trend of research articles published on manufacturing businesses. Using the phrase "Key Financial Ratio for Manufacturing Companies" in the Scopus database, the data was retrieved.

Table: 3 shows that key financial ratio analysis for manufacturing organisations has increased exponentially since its inception as a notion in 1986. The papers were authored by 2400 different authors from various publications and books. The average number of citations per page in The total number of sources scanned was 104.34, the average set of papers per writer was 1.27, and the cooperation score is 0.

TC	Author	TP	TC	Affiliations	Country
68	Franceschini F., Maisano D., Mastrogiacomo L.	5	123	Politecnico di Torino, DIGEP	Italy
74	Durisin B., Puzone F.	1	74	Bocconi University, Milan, Italy	Italy
76	T. Liu, H. Hu, X. Ding,	1	76	College of Materials Science and Engineering	China
77	Zhang D., Zhang Z., Managi S.	1	77	Research Institute of Economics and Management	China
78	Taylor J.	1	78	Department of Economics and Management School, Lancaster University	United Kingdom
79	Okumus B., Koseoglu M.A., Ma F.	1	79	Rosen Collage and Hospitality Management.	
86	Hanney S.R., Grant J.	1	86	Health Economic Research Group, Brunel University	United Kingdom
98	Genest C., Gendron M	1	98	Département de mathématiques et de statistique.	Canada
105	Jin R., Hong J., Zuo J.	2	125	University of Brighton	United Kingdom
142	Choi S., Jung K., Noh S.D.	1	142	Department of Systems Management Engineering	South Korea
144	Machado C.G., WinrothM.P	1	144	Department of Technology Management and Economics	Sweden
149	Xu X., Chen X., Jia F.	1	149	School of Management, Fudan University,	China;
150	Miyazaki K., Islam N.	1	150	Department of Innovation, Graduate School of Innovation Management	Japan
152	Benavides-Velasco C.A.	1	152	Department of EconomyAdministration de Empresas, E.T.S. IngenierosIndustriales	Spain
163	Strozzi F., Colicchia C.	1	163	Carlo Cattaneo University-LIUC School of Industrial Engineering	United Kingdom
253	Wilhite A.W., Fong E.A.	1	253	College of Business Administration, University of Alabama	United States
255	Chabowski B.R., Mena J.	1	255	Business Management Department, The University of Tulsa	South Korea
318	Ben-Daya M., Hassini E.	1	318	Industrial Engineering Department	South Korea

Table-3 This table was made using an Excel spreadsheet and a Scopus dataset.

TC stands for total citations. TP stands for total publications. In this table, the research ingredients (i.e., author, institution, and nation) are ordered by total citations.

On behalf of Table 3, which lists the ten colleges and universities with the most key financial ratio analysis author relationships, Asian universities have made the greatest contribution (5 of the top 10). Total output (TP), total citations (TC), and citations.

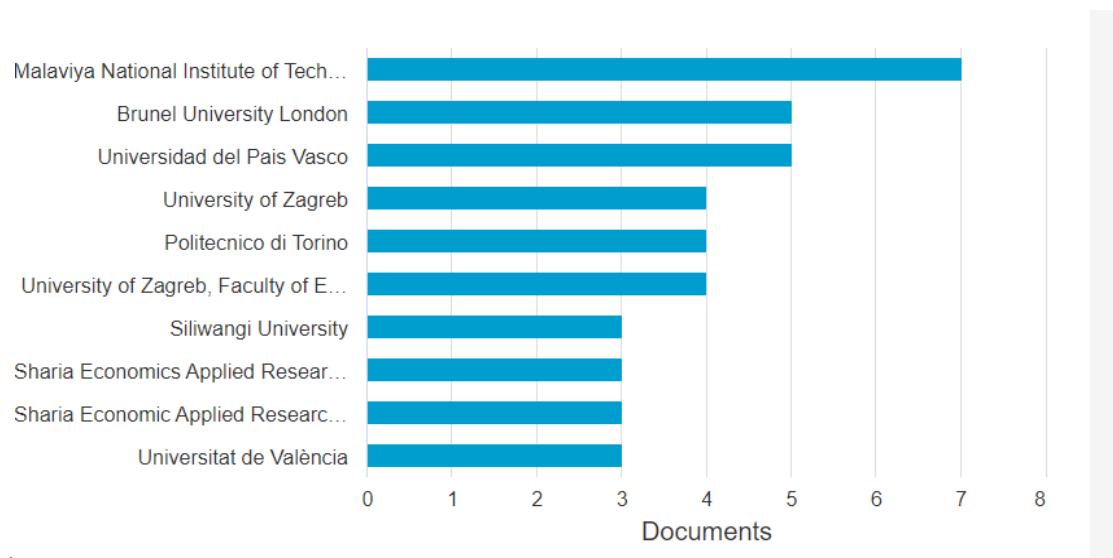


Figure 2 Create by Scopus data base by Affiliations of College and Universities

Fig 2 The Papers' Top 10 Colleges and Universities Between 1986 and 2021, this graph depicts the number of academic articles on key financial ratio analysis. The information was gathered using the keywords "ratio analysis" AND "bibliometric" in the Scopus database.

On behalf of Table 3, it indicates who has been the most prolific author. Between 1986 and 2021, authors with four or more publications are included in Table 2. Ben-Daya M., HassiniE.. with a TC score of 378, she has more articles.Chabowski B.R., Mena J., whom was ranked 2nd, seems to have a TC score of 255.

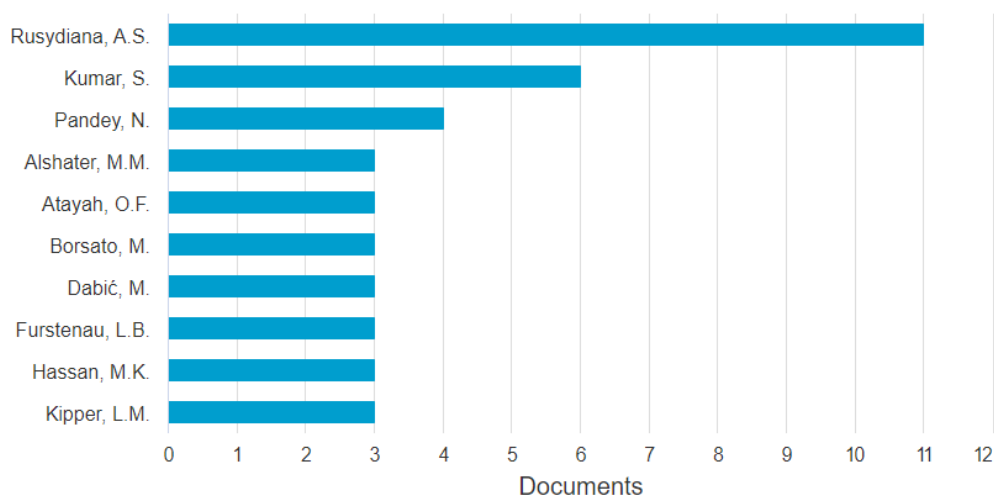


Figure 3 Create by Scopus data base for Author wise

On behalf of Table 3, shows that the predicts the number of articles each writer has authored for a given article. That is, 87.8 % of authors will write one conference, 12.2 % will create 2 conferences, and so on.

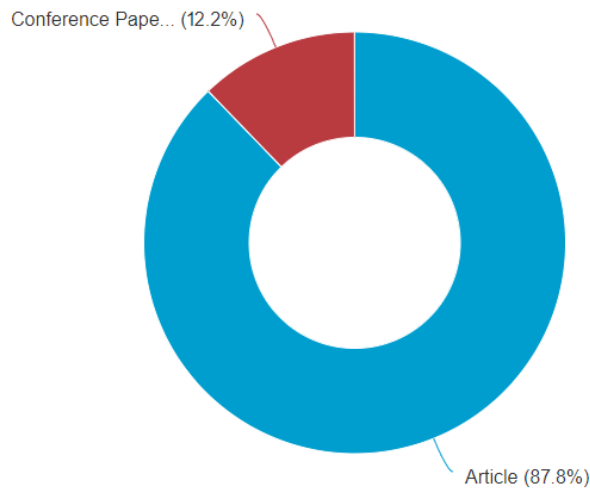


Figure :4 Create by Scopus data base

A Scopus dataset was used to construct this graph. The show demonstrates both production and On behalf of Table 3, Italy is now the most producing country, as per the data with 5 publications, 123 citations, and 24.6 Chania and the United Kingdom come in second and third, respectively, in terms of references each publication, with three publications each, and Australia, representing Oceania. The h-indices of the most productive countries are all 45. authorship distribution.

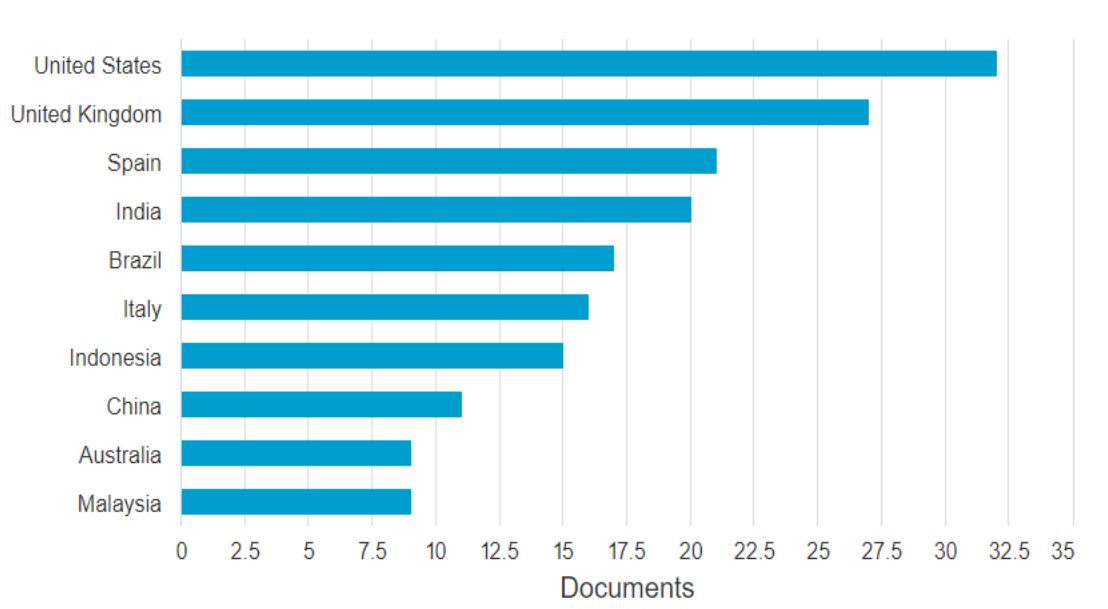


Figure:5 Create by Scopus data base for Counties wise by the productive of countries

On behalf of Table 3, which identifies the ten institutions that have supported the most key financial ratio papers.

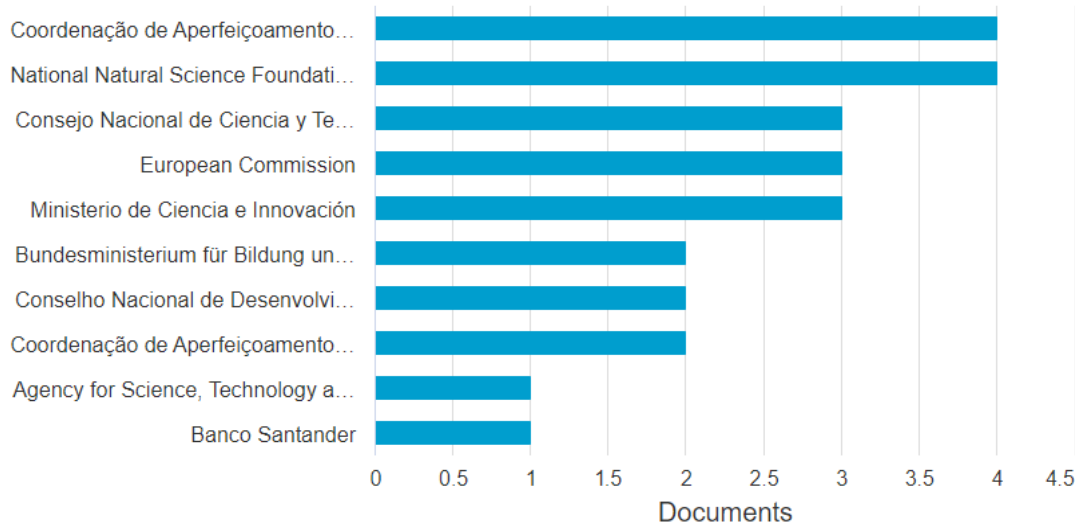


Figure: 6 Create by Scopus data base for institutions sponsored.

Fig: 6The top ten document financing sponsors. (Between 2011 and 2021, this graph depicts the ten institutes that supported the most research work on key financial ratio analysis of manufacturing companies. The information was gathered using the term "Key financial ratio analysis of manufacturing companies" in the Scopus database.

On the basis of Table 3, business management ranks first in terms of topic area for representation of the fields of science covered in the sampled research, with (26.4%), followed by social sciences with (22.3%), psychology (17%), economics (9.9%), computer science (9.9%), engineering (7.8%), and decision sciences (6.7%), arts and humanities (4.6%), environmental science (3.8%), energy (3.5%), and other (3.5%). As a result, research on key financial ratio analysis is being conducted across a wide range of disciplines.

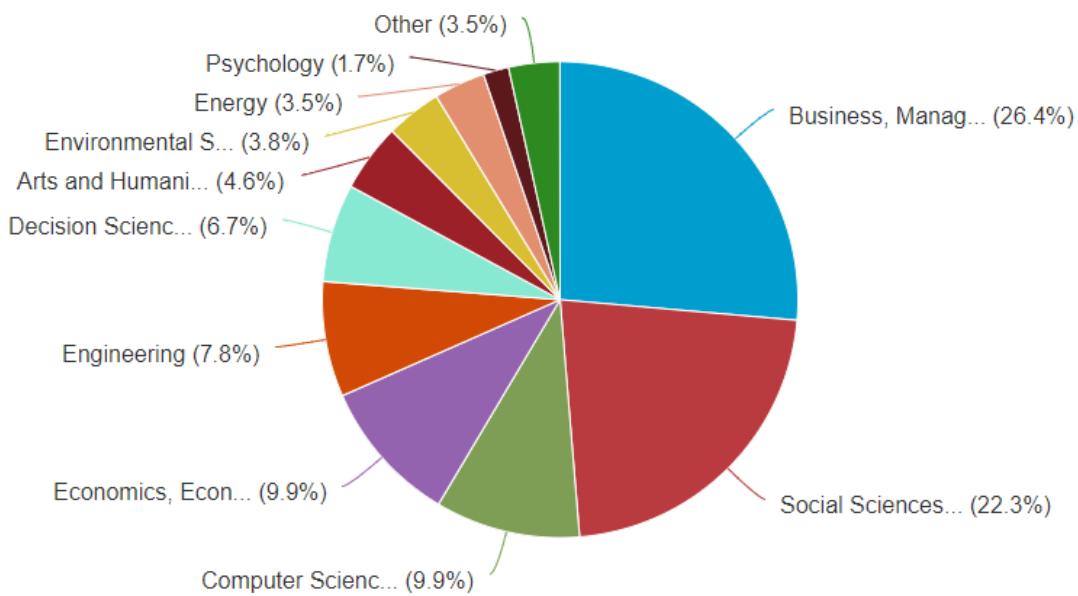


Figure: 7 Create by Scopus data base for Subject Area of the research.

Figure.7The distribution of study disciplines, as well as the key financial ratio analysis between 1986 and 2021, this graph depicts the distribution of disciplines in Key Financial Ratio Analysis of Manufacturing Companies research. The information was gathered using the phrase "Key Financial Ratio Analysis for Manufacturing Companies" in the Scopus database.

Table 4 Top journals for Key Financial Ratio analysis (15) and research in Manufacturing companies.

Journal	TC	Management	ABDC	TP	1986-2005	2005-2010	2010-2015	2015-2020	2021
International Journal of Production Research	810	N	A	11	N	N	N	728	93
Scientometrics	261	N	A	20	N	N	58	197	6
Academy of Marketing Science	255	N	A*	1	N	N	55	N	N
Small Business Economics	206	N	A	2	N	N	152	54	N
Tec novation Technological	185	N	A	3	N	185		N	N
Forecasting and Social Change	148	N	A	6	N	N	50	76	22
International Journal of Hospitality Management	79	Y	A*	1	N	N	N	79	N
Finance Research Letters	77	N	A	2	N	N	N	77	N
Corporate Governance: An International Review	74	N	A	1	N	74	N	N	N
Construction Engineering and Management	64	Y	A*	1	N	N	N	64	N
Smart and Sustainable Built Environment	46	N	C	1	N	N	N	1	1
The Association for Information Science and Technology	41	N	A*	2	N	N	N	41	N
2018 7th International Conference on Industrial Technology and Management, ICITM 2018	36	Y	N	1	N	N	N	36	N
International Entrepreneurship and Management Journal	35	Y	C	1	N	N	N	35	N
Journal of Business Economics and Management	34	Y	B	1	N	N	N	34	N

This table was made using an Excel spreadsheet and a Scopus dataset. (N* No, Y* Yes)

The Australian Business Deans Council's Journal Top List for 2021 is now available. The abbreviation TC stands for net citations. TP = Total Published.

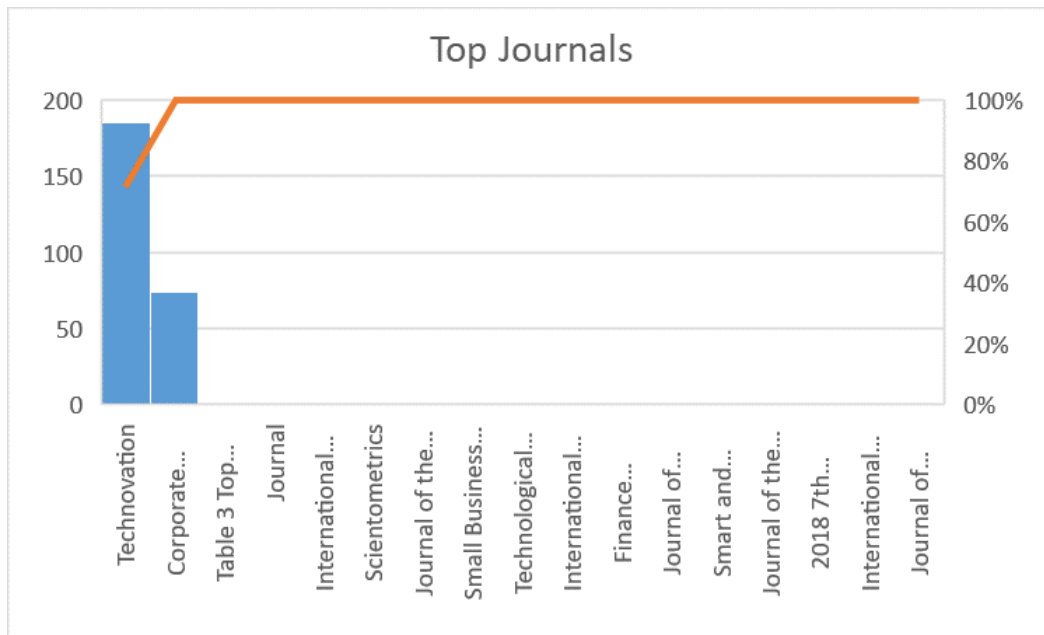


Figure:8 The top journals of publication and data Create by excel sheet.

Figure: 7 Display the publications. If a journal is classed as a 'financial ratio' by the 2021 Academic Journal Guide, FIN = X. The journals are listed in order of total citations. Excel was used to produce the graph.

Table:4. Top financial ratio analysis articles published in the last 20 years' generals that published key financial ratio analysis articles in the last 20 years' social indicators research is the most influential journal, both in terms of in terms of citations and number of publications. It has 87.8% of articles and 810 citations in the last decade. However, as for the average number of citations, ecological economics and global environmental change are the two most influential journals, with more than 5 average citations per article. It is also inferred from the table that most of the journals which accept articles on key financial ratio analysis for manufacturing companies belong to the field of economics. Some articles on the human development index have also been accepted by management journals, indicating the impact of an economic factor on management aspects.

Author	Title	TC
Chabowski B.R., Mena J.A	The structure of sustainability research in marketing, 1958-2008: A basis for future research opportunities	256
Miyazaki K., Islam N.	Nanotechnology systems of innovation-An analysis of industry and academia research activities	150
Okumus B., Koseoglu M.A.,	Food and gastronomy research in tourism and hospitality: A bibliometric analysis	79
Zhang D., Zhang Z.	A bibliometric analysis on green finance: Current status, development, and future directions	77
Durisin B., Puzone F.	Maturation of corporate governance research, 1993-2007.	74
De Castro E Silva Neto D., Cruz C.O., Rodrigues F., Silva P.	Bibliometric Analysis of PPP and PFI Literature: Overview of 25 Years of Research	64
Marzi G., Dabić M., Daim T., Garces E.	Product and process innovation in manufacturing firms: a 30-year bibliometric analysis	55

Dabić M., Maley J., Dana L.-P., Novak I., Pellegrini M.M., Caputo A.	Pathways of SME internationalization: a bibliometric and systematic review	54
L.M. Kipper, L.B. Furstenau, D. Hoppe, R. Frozza, S. Iepsen	A bibliometric examination of Scopus scientific mapping production in industry 4.0 (2011–2018).	53
T. Ratinho, R. Harms, and S. Walsh	Organizing the Landscape of Technology Entrepreneurship Publications: Making Sense of the Chaos	48
C. Newman, D. Edwards, I. Martek, J. Lai, W.D. Thwala, I. Rillie	A bibliometric literature analysis and UK-based case study of Industry 4.0 application in the construction industry	46
Gök A., Rigby J.	The impact of research funding on scientific outputs: Evidence from six smaller European countries	39
D. Trotta, P. Garengo	A bibliometric evaluation of significant research areas in Industry 4.0.	36
Martínez-Climent C., Zorio-Grima A., Ribeiro-Soriano D.	Financial return crowdfunding: literature review and bibliometric analysis	35
MerigóJ.M.,Rocafort A.	Bibliometric Overview of Business & Economics Research	34

Table-5 TC* = total citations

On the behalf of Table: 3 Shows that the authorship distribution.

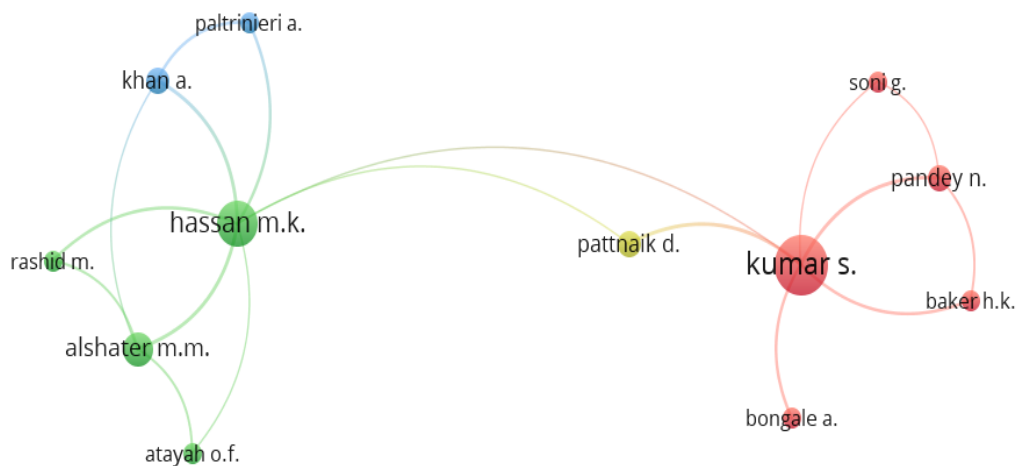


Figure9The production of the network is visualised, as is the distribution of authorship. This graph was created using VOSviewer((Van Eck & Waltman, 2020)and a Scopus dataset.

Centrality of keyword

The network visualisation shows that the author's keyword network is depicted. The nodes are connected by lines that show the association between the 4 groups of its most frequently used phrases in the study's papers: financial ratio, China, financial services, and industry. Crowd funding, business, and deep learning all tend to be grouped together, the Key Financial Ratio analysis on the left. The high frequency of these phrases demonstrates their relevance and interest.

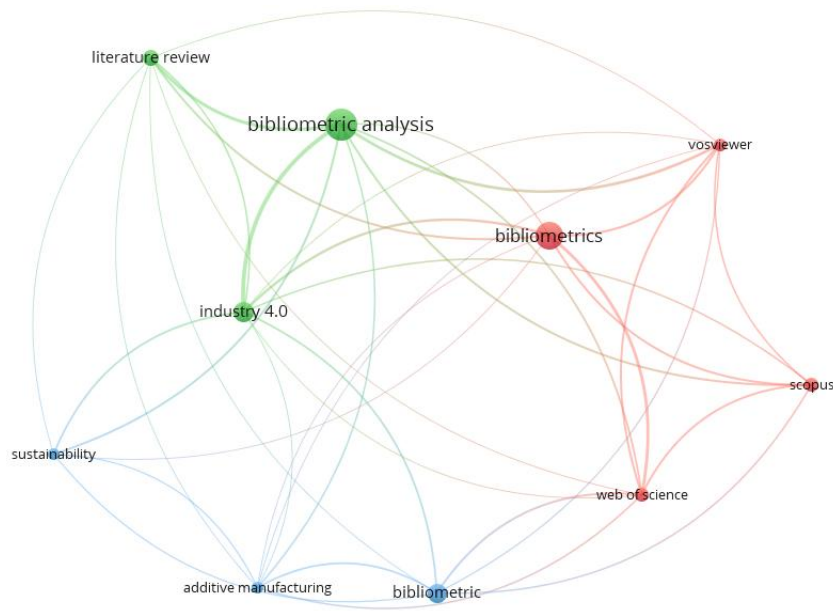


Figure:10The centrality of keywords is visualised as a network. This graph was made using VOSviewer using a Scopus dataset.

Publishers' Relevance

Through citation - based assessment, the relationship among articles can also be determined. The number of references determines the size of the cluster, and the level of the base station is assigned to each citation to construct a database. The level of significance is represented by the length of the cluster. Direct citations from one node to another reflect the direction of information flow in the links. Node tags contain information such as the degree of total centrality and publication definitions.

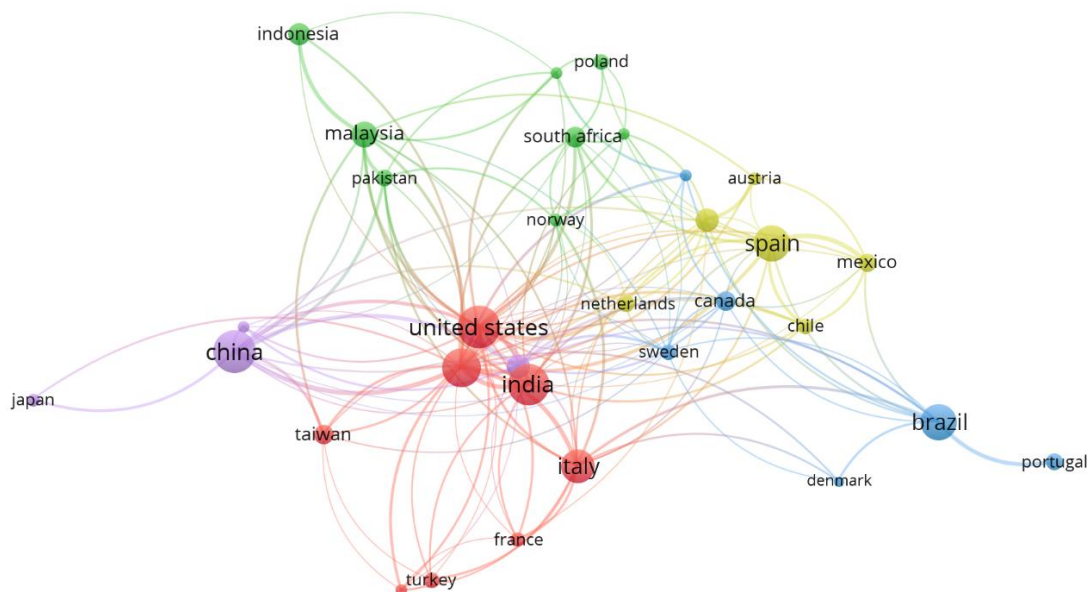


Figure11The centrality of countries' citations is visualised as a network. This graph was made using a Scopus dataset with VOSviewer.

RESULTS AND DISCUSSION OF THE STUDY

RQ1 In Table.3, the articles with the greatest citations for 2021 are Ben-dayaM.,et al., with 318 total citations, Chabowski B.R., (2019) with 255 citations, Wilhite F., with 253 citations (2018), and strozzi F., with 163 citations (2018). Because the topic is still relatively new, scholars' interest is expanding, as seen as evidenced by the increasing citation count.

During the evaluation period, they all received at least 318 citations. According to Ben-daya M. et al. (2021), major corporations are at risk of losing their long-standing dominance because they are unable to successfully engage in the Key Financial Ratio revolution. The irrational client's vision combines behavioural prediction systems in business strive to speed up capital and verify compliance., whereas digitalization intends to present profile pages associated with the financial inclusive, transforming disadvantaged communities into new financial asset-creating units.

RQ 1.2 As shown in table 3, total citation and authors of total citation and their publication with the affiliation of the institute and university, and created by the figure 4.3, Top 10 Colleges and Universities Between 1986 and 2021, this graph depicts the number of academic articles on Key Financial Ratio Analysis. Which authors have been the most productive, as seen in table 3. Table 2 lists authors who published four or more times between 1986 and 2021 According to the study TC score of 255, this represents a figures 4.4, which shows the volume of articles each author has authored, and 4.5, which shows that Italy is the most productive country, with 5 publications, 123 citations, and 24.6 citations per article, followed by Chania and the United Kingdom, both with three publications, and Australia is represented by this symbol. A most performing country each have h-indices of 45 or higher, and the graph shows the subject-area distribution(Gomber et al., 2018).

RQ 1.3 The sample consisted of 668 papers focusing on major financial ratio analysis applications, 1500 different authors contributed to the book, which was published in 250 journal articles, publications, and conferences. Sustainable Switzerland (15), Perspectives in Management, Business, and Innovation (15), and Perspectives in Management, Business, and Innovation (15) were the publications and textbooks with the most publications (see Table 3). (8), andFinancial Ratio's Influence on Finance and Economic Security (7). Manufacturing development and data systems are among the top ten publications and textbooks.

RQ 2 Manufacturing companies' financial ratios include how quickly they turn over inventory, how much they spend on maintenance, and how much they make per employee. It was created based on the research fields of the articles examined and the correlations among the most frequently used phrases. Financial ratio, financial analysis, and manufacturing enterprises were most frequently used terms in the publications.

RQ 3 The citation - based data for important "financial ratio" is extracted from the Scopus database. Scopus is a systematic database that indexes a selection of top articles, covering the majority of important scientific results.

The importance of publications is expected to decline. From 2015 to 2020, the most citations came from 15 publications (Scopus and ABDC), accounting for a total of 810 citations. According to the data, the first few journals to publish the studies were followed by a wide group of journals, with the final one being published by the most journals. As a result, it's worth noting the distribution of key financial ratios for manufacturing enterprises and management-related magazines published by journals. Manufacturing companies must make the best use of this ratio in order to create their products.

The treatment and quantitative analysis of key words searched for in articles is the scope of bibliometric studies. they are part of the so-called "studies of key financial ratios for manufacturing companies," with scientific policy being one of the most important applied sectors (financial ratio). One of the most important aspect of the research is the citations of index dataset.

CONCLUSIONS

Between 1986 and 2021, this research contributed to our understanding of the essential financial ratio analysis for manufacturing organizations' research issues in six different ways through 668 Scopus articles. First, important financial ratio analyses are gaining traction in research journals, as they become increasingly influential globally. Despite the rising interest, the research fields of key financial ratio analysis papers are as yet unknown. There isn't many

cartography research on important financial ratios, and there aren't many systematic analyses., highlights the need for a more thorough investigation. The majority of the 668 publications from 250 journals and books in the current study are from four academic disciplines: business administration, computer programming, the economy, and science, arts, physiology, and others.

It is the application of bibliometric, informatics, and management approaches to the online world in order to investigate the authors and top journals. Such methods may also have been used to map out (what is known as "research mapping" (Scopus) in traditional systematic literature research) areas of the financial ratio that appear to be the most powerful and beneficial based on the number of key words they have been accessed.

This study looked into whether there was agreement on the framework needed to define the study's ratio analysis in order to come up with a thorough definition of manufacturing companies. According to the data, a framework exists that allows for secure data based financial operations and transactions, encourages access to information for key financial ratios, and substitutes traditional financial structures with new organisations.

The study's findings reveal that the earliest journals to be published (total citation: 810) after a few journals (above 200 citations) of the studies, followed by a high citation of first journal, In the remaining portion, the biggest number of journals are published. Because of this, financial ratios for manufacturing companies are a new field, it's feasible that study publishing patterns will converge more with these laws in the future.

All segments of the financial ratio industry have their own values and beliefs. Research was reflected in this study. Because it covered a wide range of articles, from Scopus data-based to the financial ratio for a manufacturing company's ecosystem, it received a lot of attention.

Since of databases and search directories, the latest research, like previous studies that used such a broad framework, has limitations. The lack of mention of databases like Web of Science and Science Direct in the study is a research constraint. Comparative research between Scopus, Web of Science, Science Direct databases, and ABDC should be undertaken in the future to enhance the literature. The research included here is additionally significant because it is among the first in the field. This research examined research papers on manufacturing businesses based on four primary research questions, which allowed for a more in-depth investigation. The research topic is mostly carried out in the fields of business management, computer science, economics, and social science, paving the way for more in-depth studies in these fields. In addition, other concerns surfaced that require more investigation, including the interaction between manufacturing and financial inclusion and financial services, as well as the relationship between block chain, cryptocurrency, and smart contracts. Examining these relationships to determine their strength, causes, and consequences would fill a significant gap in the literature.

FUTURE SCOPE

Some observations about possible future research initiatives can be made based on the results of this review. Indeed, a survey of the sample papers reveals that numerous characteristics of manufacturing companies have been only partly addressed. As a result of the keywords analysis, the study areas that were identified as growing and trendy, such as profitability statement, Industry 4.0, Artificial Intelligence, and drones, should be given special attention. These are the topics that should be looked into further in future research studies. The consequences of the findings, as well as the study's limitations, open up new research options for future study.

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