The Trajectory of Two Decades of Global Journal of Flexible Systems Management and Flexibility Research: A Bibliometric Analysis

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Abstract In the year 2020, the Global Journal of Flexible Systems Management (GJFSM) has celebrated its two decades of publication. This study is an attempt to commemorate the two decades of publication by presenting the overview of the GJFSM along with the trajectory of flexibility research in various journals. By using multiple bibliometric tools and indicators, the study finds that the GJFSM has grown over the years in terms of total publications and citations. The contributors are from across the globe, i.e., South America, North America, Asia, Europe, Africa, and the Pacific. The Journal publishes several flexibility areas, including information systems flexibility, financial flexibility, supply chain flexibility, technology management flexibility, marketing flexibility, organizational flexibility, strategic flexibility, and manufacturing flexibility. The GJFSM is cited by authors from various countries across the globe. It has been cited across different Scopus categorizations, including “Strategy and Management,” “Business and International Management,” “General Business, Management and Accounting,” “Industrial and Manufacturing Engineering,” and “Management Science and Operations Research.” Keyword co-occurrences analysis helps to analyze the various groups of keywords cited together in the GJFSM. Co-citation analysis of references helps to identify crucial clusters of GJFSM, i.e., strategic flexibility, manufacturing flexibility, the conceptual framework of flexibility, supply chain flexibility, modeling flexibility, and application of TISM. Overall, GJFSM has seen an increase in both publications and citations, reflecting its increasing presence among the journals publishing flexibility research. The diversity of flexibility research and its contributions to research under one-roof make this Journal unique. The paper concludes with the gap areas of flexibility research and the way forward.

Keywords Bibliographic coupling • Bibliometric analysis • Co-citation analysis • Flexibility • Global Journal of Flexible Systems Management (GJFSM) • Keyword co-occurrences

Introduction

The Global Journal of Flexible Systems Management (GJFSM) is an international peer-reviewed journal founded in 2000. It is published under the auspices of the “Global Institute of Flexible Systems Management” and co-published by Springer since the year 2012. The overall aim of the Journal is to enrich the flexible systems management research base and promote cross-functional flexibility research. The Journal’s purpose has been made amply clear in the two editorials (Sushil, 2000, 2012); one highlights its genesis, launch, and innovative features, and the other giving multiple perspectives of flexible systems
management considered in the Journal. In the area of flexibility, \textit{GJFSM} is one of the prestigious academic journals (Seebacher & Winkler, 2013).

Since the inception of the Journal, \textit{GJFSM} has evolved on various qualitative and quantitative measures. The CiteScore of the Journal has increased from 0.7 in 2011 to 6.8 in 2020. It is registered in Scopus under three categories, i.e., “Business, Management and Accounting (miscellaneous),” “Business and International Management,” and “Strategy and Management” and recently it was also included in “Management Information Systems.” In 2020, the percentile score of the Journal in “Business, Management and Accounting (miscellaneous)” is 95%, “Business and International Management” is 90%, “Strategy and Management” is 89%, and “Management Information Systems” is 85%. The SNIP of the Journal has increased from 0.345 in 2011 to 1.472 in 2020. These metrics show the improvement in the rating and also indicate its reputation in flexibility research.

In 2020, \textit{GJFSM} celebrated its twentieth anniversary. The study attempts to present an overview of the Journal to commemorate the event. The bibliometric analysis of \textit{GJFSM} is performed between 2000 and 2020. Extant literature has majorly applied this technique to study the journals (Donthu et al., 2020; Singh et al., 2020a) and topics (Merigó et al., 2019; Rajan et al., 2020; Singh & Dhir, 2019). For example, Singh et al. (2020a) have studied the “Technological Forecasting and Social Change” journal from 1970 to 2018. Donthu et al. (2020) have studied the “Journal of Business Research” from 1973 to 2017. The inferences from these sources are taken as a basis for this study to conduct an in-depth analysis of its trajectory in terms of publication trend, citation trend, most influential publications, and most prolific countries. This study also provides the bibliographic coupling of countries, geographical classification of countries, special issues overview, and insights into the citing journals and countries for \textit{GJFSM}. The study also analyzes keyword co-occurrences analysis, the evolution of keywords, and citation analysis. Besides, it helps in the identification of top social science journals in the different areas of flexibility research.

The paper adds to the existing studies in \textit{GJFSM} and summarizes the research up to the end of 2020. It provides a comprehensive overview of the Journal, including citation structure, publication structure, top publications, and countries. The article enumerates the information on various topics of research in this Journal across different time phases. This will enable the readers to understand the current focus areas of the Journal. This analysis will also help them to have a better idea about the current focus of the Journal and the other journals publishing flexibility research of different types.

In the following sections, the methodology is discussed, results are presented, and the study’s conclusions are highlighted.

**Methodology**

In the past few years, the number of publications has increased at a rapid pace. The emphasis on different contexts, characteristics, and methods has resulted in a fragmented and voluminous research domain. Therefore, it appears infeasible to analyze such a huge article base and bibliometric information manually. The systematic review of literature helps in analyzing and synthesizing the extant literature. The scholars have identified different quantitative and qualitative methods to review the literature. Among these methods, bibliometric analysis helps in presenting a comprehensive overview of the literature. Bibliometric research analyzes the extensive bibliographic information based on statistical measurements (Broadus, 1987; Diodato, 1994). It provides a transparent, systematic, and reproducible view of the area of study. It helps in performing a structured analysis. It analyzes the bibliographic data to infer the publication and citation trends, themes researched, prominent countries, and presents the comprehensive overview of the domain (Crane, 1972; Pitt et al., 2021).

The bibliometric study data analysis includes descriptive and network analysis (Aria & Cuccurullo, 2017). The descriptive analysis is based on the total citations, the total publications, and cite ratio. The impact and productivity are measured through the h-index. H-index is equivalent to n number of published articles having minimum of n citations each. Along the descriptive analysis, network analysis helps in visualization of the common sources, patterns, and keywords. In this study three major types of network analysis are included, viz. co-occurrences, bibliographic coupling, and co-citation analysis. Bibliographic coupling occurs “when one item of reference is used by two papers” (Kessler, 1963, p. 169). Here, based on common references, the two papers are coupled. Co-citation analysis is referred “as the frequency in which the two documents are cited together” (Small, 1973, p. 265). Keyword co-occurrences depict the knowledge structure of the literature. The study uses VOS viewer software for visualizing the bibliographic network. Further, comparative standing of journals is seen in various flexibility areas by performing the search in Scopus in the “Business, Management, and Accounting” area.

The data were extracted from the Scopus, the most extensive database for peer-reviewed journals in social sciences (Bartol et al., 2014; Dixit et al., 2021; Singh et al., 2020b, 2021; Srivastava et al., 2020). The key search
The search revealed 463 documents that are used for analysis. In the second part, the key phrases used are flexibility, flexible, and various types of flexibility including manufacturing flexibility, supply chain flexibility, marketing flexibility, financial flexibility, information systems flexibility, organizational flexibility, and strategic flexibility.

Journal Performance and Growth

The journal performance and growth help to determine the overall growth of the Journal by measuring the impact through various parameters, including Journal CiteScore, percentile score, SNIP (Source Normalized Impact per Paper), SJR (SCImago Journal Rank), quartile scores, citation and publication trend, citation structure, and most cited articles.

Categorization of Published Articles in GJFSM

The GJFSM aims to enrich the flexible systems management research at a generic level and promotes cross-functional areas of flexibility. The key categories of flexibility research in the GJFSM include “Strategic and Organizational Flexibility,” “Manufacturing, Operations and Supply Chain Flexibility,” “Information Systems Flexibility,” “Financial Flexibility,” “Technology and Innovation Management Flexibility,” and “Marketing Flexibility.” Table 1 highlights that the majority of the articles are published in the area of Strategy and Organization Flexibility (31.97%) followed by Manufacturing, Operations and Supply Chain Flexibility (30.02%) (Table 1; Fig. 1).

Table 1 Categorization of published articles in GJFSM

| Categories                                      | Percentage articles published (%) |
|------------------------------------------------|----------------------------------|
| Strategic and organizational flexibility       | 31.97                            |
| Manufacturing, operations and supply chain flexibility | 30.02                            |
| Information systems flexibility                | 10.37                            |
| Financial flexibility                          | 5.62                             |
| Technology and innovation management flexibility | 4.54                             |
| Marketing flexibility                          | 3.02                             |
| Research tools/methods                         | 1.94                             |
| Others (editorials and short communications)   | 12.53                            |
| Total                                          | 100.00                           |

Key Performance Indicators of GJFSM

The key performance indicators of the Journal include CiteScore, quartile score, SJR, and SNIP. CiteScore symbolizes the average citations per document received by a journal during a certain time period. It calculates the citations received in 1 year for the documents that are published in the current year and previous three years for a journal. The CiteScore of the Journal has increased from 0.7 in 2011 to 6.8 in 2020 (Fig. 2). The CiteScore percentile shows the relative standing of a journal in various Scopus categories. The Journal is awarded a CiteScore percentile for each category in which the Journal is indexed in. GJFSM is indexed in three categories, i.e., “Business, Management, and Accounting (miscellaneous),” “Business and International Management,” and “Strategy and Management,” and recently the fourth category is added, i.e., “Management Information Systems.” The GJFSM is indexed in “Business, Management, and Accounting (miscellaneous)” since 2019. In 2020, the percentile scores of “Business, Management, and Accounting (miscellaneous),” “Business and International Management,” “Strategy and Management,” and “Management Information Systems” are 95%, 90%, 89%, and 85%, respectively (Fig. 3).

SJR indicates “the average number of weighted citations received in a year by the documents published in the Journal in the previous three years” (Janen, 2020, p. 189). SNIP calculates the contextual citation impact. The SJR of the GJFSM has improved from 0.142 in 2007 to 0.819 in 2020, and SNIP has improved from 0.057 in 2003 to 1.472 in 2020 (Fig. 4).

The journals based on the ranking in SJR are divided into four equal quartiles, i.e., Q1, Q2, Q3, and Q4, in various subject categories. The journals in Q1 are more prestigious and cited often than journals in other quartiles. In 2020, the journal ranked in quartile 1 of “Business, Management and Accounting (miscellaneous),” “Business and International Management,” “Strategy and Management,” and “Management Information System” (Fig. 5).

Citation and Publication Trend of GJFSM

GJFSM has published eight articles in the inaugural year and treated it as the incubation year, and thus, the actual two decades are treated as 2001 to 2020. However, since then the number of publications has grown to 28 articles in 2020 spread across 5 issues, and the average number of articles published in each issue ranges from 5 to 7. Figure 6 shows the publication trend and citation trend of the GJFSM. Table 19 (in appendix) depicts the publication and citation structure. Overall, from 2000 to 2020, the total
Strategic and Organizational Flexibility 32%
Manufacturing, Operations and Supply Chain Flexibility 30%
Information System Flexibility 10%
Financial Flexibility 6%
Technology and Innovation Management Flexibility 5%
Marketing Flexibility 3%
Research Tools/Methods 2%
Others 12%

Fig. 1 Graphical representation of categories of articles published in GJFSM

Fig. 2 CiteScore trajectory of GJFSM (Source: Scopus)

Fig. 3 CiteScore percentile score of GJFSM in different categories (Source: Scopus)
number of publications are 463 (all publications) and 393 (excluding editorials and short communications).

The total citations and the total publications are growing. Figure 6 shows that in terms of publications, the year 2014 and 2018 were the most productive years with 31 articles each year, followed by 2016 with 30 articles. Figure 7 shows that the percentage of articles that were published in a year and are not cited. All the articles published in 2015, 2017, and 2018 are cited. Citations indicate the influence of the articles (Tsay, 2009). Therefore, in terms of citations, 2020 was the most productive year, followed by 2019 and 2018. The Journal was indexed in Scopus in the year 2006. Before 2006, the citations per year were less than 30. After 2006, the Journal has started to receive more citations. Table 19 (in appendix) shows that 13.74% of articles are cited at least 20 times, 34.86% of articles are at least cited 10 times, and 90.84% of articles are at least cited once. The impact of the Journal can be seen through the h-index. The most influential year for impact was 2014, with an h-index of 12; the overall h-index of the Journal is 33. Thus, the publications and citations of GJFSM exhibit a robust and positive growth trajectory.

**Most Cited Articles**

As evident across literature that citations reveal the influence of the articles. Table 2 depicts the top 10 most influential publications. The most cited studies are in the area of the interpretive structural model, a research tool (TC: 253) followed by supply chain flexibility (TC: 140), and flexible manufacturing system (TC: 104). Table 2 highlights that the range of publication year is 2003–2017. The C/Y ratio is calculated to see the average citations per year. Therefore, it helps to minimize the effect of the year on total citations. The top articles according to cite ratio (C/Y) are interpretive structural model (C/Y: 31.63), Flexible Green Supply Chain Management (C/Y: 18.75), and Big...
Data Analytics (C/Y: 18.33). In the literature (Seebacher and Winkler, 2013) work of Lummus et al. (2003) is considered as one of the most cited paper in the area of supply chain flexibility. More citations were given in the second decade from 2011 to 2020 compared to the first decade up to 2010. Out of the top 10 articles, only three belong to the first decade and the rest seven from the second decade.

**Special Issues in GJFSM**

The special issues in *GJFSM* started in the year 2014. On average, the special issues of the Journal vary from 1 to 2 per year. The number of articles published in these special issues ranges from 5 to 9. These special issues are published on varied topics, for instance, HR flexibility, supply chain flexibility, organizational flexibility, innovation & flexibility, and complexity management (Table 3).

**Country Analysis**

**Most Influential Countries According to Cite Ratio**

Along with the most cited articles, top countries also contribute to the growth of the journals. Table 4 presents the leading countries, their total publications (TP), citations (TC), cite ratio (TC/TP), and their impact measured...
through h-index. The top publishing developed countries based on cite ratio (citations per paper) are France, UK, Denmark, Austria, USA, Australia, and Germany. The top publishing emerging countries include Russia, India, and Malaysia. In general, these top publishing developed countries have an average cite ratio of 16, whereas the top publishing emerging countries have an average cite ratio of 11. This indicates that the articles from the top publishing developed countries have fetched more citations as compared to the articles published from the emerging countries.

Table 2 (in appendix) classifies all the publishing countries into different geographical regions for 2000–2020, 2011–2015, and 2016–2020. Figure 8 presents the percentage representation of countries in different geographies that are publishing in *GJFSM*. The contributing countries are from across the globe, i.e., Asia (44%), Europe (36%), Africa (6%), North America (6%), South America (4%), and Pacific (4%). This points toward the global authorship base of the Journal.

Bibliographic coupling occurs when two articles commonly cite the third article. The analysis of countries is also performed through bibliographic coupling. Figure 9 represents countries’ bibliographic coupling with a threshold of a minimum 1 citation and minimum 3 documents. Out of 52 countries, 25 countries meet the threshold criteria. In Fig. 9, nodes represent the most influential countries, and links represent the coupling between them. India is at the center of the graph. In the series of country coupling, the coupling strength of India and USA is highest followed by India and UK, India and Canada, and India and France. The coupling linkages can also be seen for UK and Spain.

### Table 2: Top ten cited articles

| Rank | Title                                                                 | TC | Year | C/Y |
|------|----------------------------------------------------------------------|----|------|-----|
| 1    | Interpreting the interpretive structural model                       | 253 | 2012 | 31.63 |
| 2    | Supply chain flexibility: building a new model                       | 140 | 2003 | 8.24 |
| 3    | Identification of flexible manufacturing system dimensions and their interrelationship using total interpretive structural modeling and fuzzy MICMAC analysis | 104 | 2014 | 17.33 |
| 4    | Flexible decision approach for analyzing performance of sustainable supply chains under risks/uncertainty | 95 | 2014 | 15.83 |
| 5    | Interpretive matrix: a tool to aid interpretation of management and social research | 83 | 2005 | 5.53 |
| 6    | Enablers and barriers of flexible green supply chain management: a total interpretive structural modeling approach | 75 | 2016 | 18.75 |
| 7    | Fuzzy-TISM: a fuzzy extension of TISM for group decision making      | 72 | 2015 | 14.40 |
| 8    | Modeling of continuity and change forces in private higher technical education using total interpretive structural modeling (TISM) | 62 | 2011 | 6.89 |
| 9    | Interpretive ranking process                                         | 58 | 2009 | 5.27 |
| 10   | Big data analytics: a review on theoretical contributions and tools used in literature | 55 | 2017 | 18.33 |

### Table 3: Special issues publication in *GJFSM*

| Topic                                             | Year       | Number of articles published |
|---------------------------------------------------|------------|-----------------------------|
| Inter-organizational governance flexibility        | 2022**     | -                           |
| Flexibility approaches for addressing sustainable development goals | 2021*      | -                           |
| Innovation and flexibility for Covid-19 recovery strategies | 2021    | 5                           |
| Enhancing organizational management in Latin America through flexibility: trends and challenges | 2020   | 7                           |
| Flexible operations and supply chains              | 2019      | 5                           |
| The future of manufacturing global value chains, smart specialization and flexibility | 2018   | 6                           |
| Models and management of elasticity and openness toward flexible organizations | 2017   | 7                           |
| Flexible sustainable supply chain network design   | 2016      | 7                           |
| Flexible HR practice                               | 2016      | 9                           |
| Flexible complexity management and engineering by innovative services | 2014   | 8                           |

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France and Spain, Canada and United Arab Emirates, and Bangladesh and Australia.

**Top Citing Countries of GJFSM**

Table 5 lists the top citing countries with at least 20 articles citing GJFSM. The top citing countries include India, the USA, and the UK, followed by China and Australia.

Further, the countries are classified into different geographical regions (Appendix Table 21), and geography-wise percentage representation of countries citing GJFSM is highlighted (Fig. 10). The top citing countries are from Europe (35%), Asia (33%), Africa (15%), North America (8%), South America (6%), and Pacific (3%). The analysis indicates that GJFSM has received citations from all the regions portraying its global readership and impact.

**Citing Journals Analysis**

Table 6 highlights the top 10 citing journals of GJFSM with at least 20 citations. The top citing Journals include “Benchmarking,” “Journal of Cleaner Production,” and “International Journal of Production Research.” Table 22 (in appendix) classifies the top citing journals of GJFSM. The classification is performed based on the Scopus category. The list is sorted according to the number of articles in each source. The top categorizations of the articles are from “strategy and management” (19.20%), followed by “business and international management” (7.23%), and “general business, management, and accounting” (6.94%) (Fig. 11). The citation profile of GJFSM exhibits that it impacted a variety of areas from Management, Engineering, and Social Sciences, demonstrating its broader impact. The total number of journals citing GJFSM is 657, and the total number of citing articles is 2047 during 2000 to 2020.

Further, GJFSM publications are categorized into five different types of flexibility, i.e., strategic flexibility, manufacturing flexibility, supply chain flexibility, marketing flexibility, and financial flexibility. The articles in respective flexibility types are analyzed to understand the key citing journals in each area. Table 7 lists the top five citing journals of GJFSM in each flexibility classification.

**Keywords and Co-citation Analysis**

**Keywords Analysis**

The keywords analysis was performed to analyze the most influential keywords. The evolution of the top 10 keywords
is mapped in Table 8. It highlights that the major focus area of the Journal is flexibility since its inception. In the 2000–2005 time period, the Journal was more oriented toward productivity, competitive advantage, competitiveness, and innovation. From 2006 to 2010, the orientation was shifted toward manufacturing flexibility and competitiveness. In the 2011–2015 time period, the Journal was oriented toward manufacturing flexibility and competitiveness. In the 2016–2020 time period, the Journal has oriented toward IT flexibility, supply chain flexibility, and firm performance.

The keyword co-occurrences analysis is performed to monitor the emerging fields and research themes. Figure 12 presents keyword co-occurrences network of articles published between 2000 and 2020. A threshold of minimum 3 occurrences of keywords was applied. Out of 1502 keywords, 94 meet the threshold criteria. The duplications and not connected items were removed. Thus, the final number of keywords used in the analysis is 85. The top keywords in the co-occurrences network are flexibility, competitiveness, supply chain management, strategic flexibility, and flexible manufacturing system. The flexibility is also related to real-option, advanced manufacturing technology, and knowledge management. However, minimal studies are conducted in these domains.

**Co-citation Analysis**

Co-citation analysis was performed to understand the Journal’s intellectual structure. It was performed using VOS viewer. The threshold criteria of a minimum number of citations of a cited reference were applied to 6. Out of 18,611 citations, 70 citations meet the threshold. Further, the duplicities among the clusters were removed. Thus, the final analysis was performed on 65 references. Seven clusters were identified. However, due to the presence of only two articles in cluster 7, this cluster was removed from the analysis. The results of the co-citation analysis are presented in Table 9 and Fig. 13.

Cluster 1 is dominated by the work related to *Strategic Flexibility*. The major themes discussed in this cluster are resource flexibility, strategic intent, organizational process, user participation, external flexibility, technical flexibility, valuation of flexibility, financial flexibility, and continuity-change. Cluster 2 highlights the work related to *Manufacturing Flexibility*. It consists of the keywords including machine flexibility, routing flexibility, planning, design, control strategies, integrated manufacturing, system improvement, modification flexibility, new product flexibility, labor flexibility, and material handling flexibility.
Cluster 3 is dominated by the work related to Conceptual Frameworks of Flexibility. The major themes discussed in this cluster are environment uncertainty, expansion, volume, mix, new product, modification, expansion, and flexibility hierarchy. Cluster 4 highlights the work related to Supply Chain Flexibility. It consists of the keywords including uncertainty management, demand, cost, volume, product specifications, on-time delivery, supplier flexibility, operational performance, logistics optimization, and supply chain design. Cluster 5 is dominated by the work related to Modeling Flexibility. The major themes discussed in this cluster are the analytic hierarchy process, structural equation modeling, multiobjective linear programming, integer linear programming, continuity-change matrix, interpretive matrix, partial least squares method, and interpretive ranking process. Cluster 6 highlights the work in the area of Application of TISM. It consists of the keywords including modified-TISM, fuzzy-TISM, continuity and change, humanitarian supply chain, flexible control system, and flexible manufacturing dimensions.

Comparative Standing of Journals in Different Flexibility Areas

Flexibility is defined as “the ability of a firm to reallocate and reconfigure its organizational resources, processes, and strategies to deal with environmental changes” (Zhou & Wu, 2010, p. 449). The key flexibility themes published in GJFSM include strategic flexibility, manufacturing flexibility, supply chain flexibility, organizational flexibility, information systems flexibility, marketing flexibility, and financial flexibility. The top journals publishing these works were identified from the year 2000 to 2020. The top journals were identified based on the highest total publications in the respective areas of flexibility. The Scopus search was performed in abstract-title-keyword. The filters such as subject area: business, management and accounting, source type: Journal, and language: English were applied.

Flexibility

The keyword search of flexibility was performed. Table 10 lists the top journals in the area of flexibility. The top publishing journals of flexibility include the “International Journal of Production Research,” “International Journal of Production Economics,” and “Global Journal of Flexible Systems Management.” However, GJFSM publishes around 51.18% of the total articles published in GJFSM that directly include the term flexibility in article title, abstract, or keywords. GJFSM has been publishing reviews.
on flexibility from time to time (Sharma et al., 2010; Shukla et al., 2019).

**Strategic Flexibility**

The top journals in the area of strategic flexibility are presented in Table 11. The top publishing journals of strategic flexibility include “Global Journal of Flexible Systems Management,” “International Journal of Technology Management,” and “Strategic Management Journal.” *GJFSM* has the highest publications in strategic flexibility and also publishes around 5.40% of the total articles published in *GJFSM* that directly include strategic flexibility or related terms in article title, abstract, or keywords. A review on strategic flexibility was published at an early stage by Roberts and Stockport (2009).

**Manufacturing Flexibility**

The Scopus search was performed based on terms manufacturing flexibility or flexible manufacturing. Table 12 lists the top journals in the area of manufacturing flexibility. The top publishing journals of manufacturing flexibility include the “International Journal of Production Research,” “International Journal of Production Economics,” “Journal of Manufacturing Technology Management,” and “International Journal of Production Research.”
"Management," and "Global Journal of Flexible Systems Management." Although the GJFSM does not have the highest publications in manufacturing flexibility, it publishes around 19.44% of the total articles published in GJFSM that directly include the term manufacturing flexibility or related issues in article title, abstract, or keywords. Reviews on manufacturing flexibility have also appeared in GJFSM, such as Sharma and Sushil (2002) and Mishra et al. (2014).

**Supply Chain Flexibility**

To analyze the consolidated stream of research on supply chain flexibility, keyword search was performed for terms...
supply chain flexibility or flexible supply chain. Table 13 lists the top journals in the area of supply chain flexibility. The top publishing journals of supply chain flexibility include the “International Journal of Production Research,” “International Journal of Production Economics,” and “Global Journal of Flexible Systems Management.” Although the GJFSM does not have the highest publications in supply chain flexibility, it publishes around 14.90% of the total articles published in GJFSM that directly include the term supply chain flexibility or related issues in article title, abstract, or keywords. A systematic literature review on manufacturing and supply chain flexibility was published by Pérez-Pérez et al. (2019), which placed GJFSM at rank number five.

Organizational Flexibility

A keyword search was performed based on the term organizational flexibility. Table 14 shows the top journals in the area of organizational flexibility. The top publishing journals of organizational flexibility include “Global Journal of Flexible Systems Management,” “International Journal of Human Resource Management,” and “International Journal of Operations and Production Management.” GJFSM has the highest publications in organizational flexibility and also publishes around 21.38% of the total articles published in GJFSM that directly include organizational flexibility or related terms in article title, abstract, or keywords.

Information Systems Flexibility

The keyword search was performed based on the term information systems flexibility or IT flexibility. Table 15 lists the top journals in the area of information systems flexibility. The top publishing journals of information systems flexibility include the “International Journal of Production Research,” “Global Journal of Flexible Systems Management,” and “Decision Support Systems.” Although the GJFSM does not have the highest publications in information systems flexibility, it publishes around 6.48% of the total articles published in GJFSM that directly include information system flexibility or related terms in article title, abstract, or keywords.
Marketing Flexibility

The keyword search was performed based on term marketing flexibility. Table 16 lists the top journals in the area of marketing flexibility. The top publishing journals of marketing flexibility include “Industrial Marketing Management,” “Management Science,” and “Global Journal of Flexible Systems Management.” Although the GJFSM does not have the highest publications in marketing flexibility, it publishes around 3.67% of the total articles published in GJFSM that directly include marketing flexibility or related terms in article title, abstract, or keywords.

Financial Flexibility

To analyze the consolidated stream of research on financial flexibility, keyword research was performed for term financial flexibility. Table 17 lists the top journals in the area of financial flexibility. The top publishing journals of financial flexibility include “Global Journal of Flexible Systems Management,” “Journal of Corporate Finance,” and “International Journal of Production Economics.” GJFSM has highest publications in financial flexibility and also publishes around 3.89% of the total articles published in GJFSM that directly include financial flexibility or related terms in article title, abstract, or keywords.

Discussion on Flexibility Research

The flexibility research has been published in extant literature at the generic level and in specific areas such as strategic flexibility, organizational flexibility, manufacturing flexibility, and so on. The GJFSM has published papers in the last two decades in all the significant categories of flexibility. The ranking of GJFSM as per the number of articles published and the percentage of total publications is summarized in Table 18. It can be observed from Table 18 that GJFSM lies in the top three/four journals as per the number of papers published and is also ranked as number one in some areas such as strategic flexibility, organizational flexibility, and financial flexibility. As per the percentage of total papers published, it is ranked as number one in all the categories. It is gratifying to note that
being a focused journal on flexibility, the percentage of papers published in various types is reasonably high in contrast to the other journals that give limited space for the flexibility-related articles. In some journals, the percentage is five to six percent, but in most of the journals, it is within one percent.

A low percentage of flexibility research in most of the journals, published in various functional areas, indicates that most of the journals are publishing flexibility research but allocate a limited space to such papers. The significant contributions in these journals are made in the primary line research on the respective functional areas. The journals in the operations management area, such as the *International Journal of Operations and Production Management*, have a significant percentage of publications on flexibility.

**Table 10** Top journals of flexibility (2000–2020)

| Rank | Journal                                      | Publications on flexibility | Total Publications | Percentage publication on flexibility (%) |
|------|----------------------------------------------|----------------------------|--------------------|------------------------------------------|
| 1    | International Journal of Production Research | 441                        | 7718               | 5.71                                     |
| 2    | International Journal of Production Economics| 275                        | 5636               | 4.87                                     |
| 3    | Global Journal of Flexible Systems Management| 237                        | 463                | 51.18                                    |
| 4    | Journal of Cleaner Production                | 222                        | 22,545             | 0.98                                     |
| 5    | Journal of Contextual Behavioral Science     | 147                        | 444                | 33.10                                    |
| 6    | Management Science                           | 109                        | 3597               | 3.03                                     |
| 7    | International Journal of Operations and Production Management | 103                        | 1410               | 7.30                                     |
| 8    | International Journal of Human Resource Management | 91                         | 2897               | 3.14                                     |
| 9    | Journal of Manufacturing Technology Management| 89                         | 1090               | 8.17                                     |
| 10   | Production Planning and Control              | 86                         | 1824               | 4.71                                     |
Table 11 Top ten journals of strategic flexibility (2000–2020)

| Rank | Journal                                         | Publications on strategic flexibility | Total publications | Percentage publication on strategic flexibility (%) |
|------|------------------------------------------------|--------------------------------------|--------------------|------------------------------------------------------|
| 1    | Global Journal of Flexible Systems Management   | 25                                   | 463                | 5.40                                                 |
| 2    | International Journal of Technology Management  | 12                                   | 1517               | 0.79                                                 |
| 3    | Strategic Management Journal                    | 8                                    | 1936               | 0.41                                                 |
| 4    | International Journal of Production Economics   | 7                                    | 5636               | 0.12                                                 |
| 5    | European Journal of Marketing                   | 6                                    | 1528               | 0.39                                                 |
| 6    | Industrial Marketing Management                 | 6                                    | 2585               | 0.23                                                 |
| 7    | Journal of Business Research                    | 6                                    | 6016               | 0.10                                                 |
| 8    | Strategic Direction                             | 5                                    | 2969               | 0.17                                                 |
| 9    | International Journal of Operations and Production Management | 4 | 1410 | 0.28 |
| 10   | Journal for Global Business Advancement         | 4                                    | 371                | 1.08                                                 |

Table 12 Top ten journals of manufacturing flexibility (2000–2020)

| Rank | Journal                                         | Publications on manufacturing flexibility | Total publications | Percentage publication on manufacturing flexibility (%) |
|------|------------------------------------------------|--------------------------------------------|--------------------|--------------------------------------------------------|
| 1    | International Journal of Production Research   | 579                                        | 7718               | 7.50                                                   |
| 2    | International Journal of Production Economics  | 191                                        | 5636               | 3.39                                                   |
| 3    | Journal of Manufacturing Technology Management | 111                                        | 1090               | 10.18                                                  |
| 4    | Global Journal of Flexible Systems Management  | 90                                         | 463                | 19.44                                                  |
| 5    | Production Planning and Control                 | 78                                         | 1824               | 4.28                                                   |
| 6    | Journal of Manufacturing Processes              | 77                                         | 2540               | 3.03                                                   |
| 7    | International Journal of Operations and Production Management | 73 | 1410 | 5.18 |
| 8    | Journal of Cleaner Production                   | 61                                         | 22,545             | 0.27                                                   |
| 9    | International Journal of Manufacturing Technology and Management | 50 | 891 | 5.61 |
| 10   | Industrial Management and Data Systems          | 35                                         | 1559               | 2.25                                                   |

Journal of Production Research, International Journal of Production Economics, Journal of Manufacturing Technology Management, and International Journal of Supply Chain Management, have given a reasonable emphasis on reporting flexibility research. Though some journals have not appeared in the top ten journals in respective categories, occasional publications on flexibility have appeared in these journals such as Long Range Planning (Eppink, 1978; Volberda, 1997); Journal of Management Studies (Dai et al., 2018; Evans, 1991); Organization Science (Eisenhardt et al., 2010; Volberda, 1996; Young-Ybarra & Wiersema, 1999); Journal of International Business Studies (Allen & Pantzalis, 1996); Operations Research (Huchzermeier & Cohen, 1996); California Management Review (Bahrami & Evans, 2011; Upton, 1994); Academy of Management Perspectives (Hitt et al., 1998; Shimizu & Hitt, 2004); European Journal of Operational Research (Beach et al., 2000); Omega (Bengtsson & Olhager, 2002); Academy of Management Journal (Nadkarni & Herrmann, 2010); Decision Sciences (Yu et al., 2013); International Journal of Management Reviews (Brozovic, 2018); Business Strategy and the Environment (Perez-Valls et al., 2016); Strategic Entrepreneurship Journal (Brinckmann et al., 2019); British Journal of Management (Dalziel,
It can be observed that a variety of leading journals have published flexibility research in the past, but sporadically. It can be concluded that flexibility is a general management concept, and researchers from different functional backgrounds can aspire to publish in a range of leading journals. However, GJFSM appears to be emerging as a lead journal exclusively covering the whole gamut of the flexibility areas, and flexibility researchers can aspire to publish cross-functional flexibility research in this growing Journal focused on flexibility and related issues.

Though GJFSM has been publishing in almost all areas of flexibility, the total representation is comparatively less in marketing flexibility and financial flexibility. Some important cross-functional flexibility papers in GJFSM are by Flaherty et al. (2015), Birasnav et al. (2015), and Dey et al. (2019). It is expected to enhance cross-functional

### Table 13 Top journals of supply chain flexibility (2000–2020)

| Rank | Journal                                      | Publications on supply chain flexibility | Total publications | Percentage publication on supply chain flexibility (%) |
|------|---------------------------------------------|----------------------------------------|--------------------|------------------------------------------------------|
| 1    | International Journal of Production Research | 146                                    | 7718               | 1.89                                                 |
| 2    | International Journal of Production Economics | 137                                    | 5636               | 2.43                                                 |
| 3    | Global Journal of Flexible Systems Management | 69                                     | 463                | 14.90                                                |
| 4    | International Journal of Supply Chain Management | 61                                     | 2045               | 2.98                                                 |
| 5    | Supply Chain Management                      | 53                                     | 833                | 6.36                                                 |
| 6    | Production Planning and Control              | 39                                     | 1824               | 2.14                                                 |
| 7    | Journal of Manufacturing Technology Management | 37                                     | 1090               | 3.39                                                 |
| 8    | Journal of Cleaner Production                | 32                                     | 22,545             | 0.14                                                 |
| 9    | International Journal of Operations and Production Management | 29                                     | 1410               | 2.06                                                 |
| 10   | International Journal of Logistics Management | 27                                     | 616                | 4.38                                                 |

### Table 14 Top journals of organizational flexibility (2000–2020)

| Rank | Journal                                      | Publications on organizational flexibility | Total publications | Percentage publication on organizational flexibility (%) |
|------|---------------------------------------------|-------------------------------------------|--------------------|--------------------------------------------------------|
| 1    | Global Journal of Flexible Systems Management | 99                                       | 463                | 21.38                                                 |
| 2    | International Journal of Human Resource Management | 52                                       | 2897               | 1.79                                                  |
| 3    | International Journal of Operations and Production Management | 42                                       | 1410               | 2.98                                                  |
| 4    | International Journal of Production Economics | 40                                       | 5636               | 0.71                                                  |
| 5    | International Journal of Production Research | 36                                       | 7718               | 0.47                                                  |
| 6    | Human Resource Management International Digest | 33                                       | 2222               | 1.49                                                  |
| 7    | Personnel Review                            | 31                                       | 1238               | 2.50                                                  |
| 8    | Management Decision                         | 30                                       | 2406               | 1.25                                                  |
| 9    | Journal of Manufacturing Technology Management | 27                                       | 1090               | 2.48                                                  |
| 10   | Journal of Operations Management             | 26                                       | 894                | 2.91                                                  |
flexibility research to evolve a sound theory of flexibility. *GJFSM* has also published works that relate to multiple connotations of flexibility. Some recent contributions are related to agility (Khorasani, 2018; Piya et al., 2020; Vaishnavi & Suresh, 2020); resilience (Kumar & Anbanandam, 2020); disruption (Aldrighetti et al., 2019); inclusion (Malik et al., 2019); emergency management (Ha, 2019); ambidexterity (Katic & Agarwal, 2018); rapid alignment (Razzak et al., 2018); the speed of adjustment (Warmana et al., 2020); responsiveness (Singla & Singh, 2018); super-flexibility (Evans & Bahrami, 2020), and so on. The application areas are also becoming more integrative such as sustainability, Industry 4.0, big data analytics, health care, competitiveness, disaster management,

### Table 15 Top journals of information systems flexibility (2000–2020)

| Rank | Journal                                      | Publications on information systems flexibility | Total publications | Percentage publication on information systems flexibility (%) |
|------|-----------------------------------------------|-------------------------------------------------|---------------------|----------------------------------------------------------|
| 1    | International Journal of Production Research | 48                                              | 7718                | 0.62                                                     |
| 2    | Global Journal of Flexible Systems Management | 30                                              | 463                 | 6.48                                                     |
| 3    | Decision Support Systems                      | 25                                              | 2627                | 0.95                                                     |
| 4    | Journal of Cleaner Production                 | 19                                              | 22,545              | 0.08                                                     |
| 5    | Journal of Management Information Systems     | 19                                              | 946                 | 2.01                                                     |
| 6    | Knowledge Based Systems                       | 16                                              | 4352                | 0.37                                                     |
| 7    | International Journal of Production Economics | 16                                              | 5636                | 0.28                                                     |
| 8    | Industrial Management and Data Systems        | 13                                              | 1559                | 0.83                                                     |
| 9    | Production Planning and Control               | 13                                              | 1824                | 0.71                                                     |
| 10   | Journal of Enterprise Information Management  | 12                                              | 817                 | 1.47                                                     |

### Table 16 Top journals of marketing flexibility (2000–2020)

| Rank | Journal                              | Publications on marketing flexibility | Total publications | Percentage publication on marketing flexibility (%) |
|------|--------------------------------------|--------------------------------------|---------------------|-----------------------------------------------------|
| 1    | Industrial Marketing Management      | 18                                   | 2585                | 0.70                                                |
| 2    | Management Science                   | 18                                   | 3597                | 0.50                                                |
| 3    | Global Journal of Flexible Systems Management | 17                               | 463                 | 3.67                                                |
| 4    | Journal of Business and Industrial Marketing | 15                              | 1387                | 1.08                                                |
| 5    | International Journal of Production Economics | 13                              | 5636                | 0.23                                                |
| 6    | Marketing Science                    | 12                                   | 1178                | 1.02                                                |
| 7    | Journal of Marketing                 | 11                                   | 952                 | 1.16                                                |
| 8    | International Marketing Review       | 10                                   | 814                 | 1.23                                                |
| 9    | European Journal of Marketing        | 9                                    | 1528                | 0.59                                                |
| 10   | Journal of Manufacturing Technology Management | 9                               | 1090                | 0.83                                                |
COVID-19, and many more emerging areas related to flexibility. Thus, the authors can also explore multiple connotations of flexibility in cutting-edge research areas in *GJFSM*.

**Conclusion and way forward**

In 2020, *GJFSM* completed two decades of its publication. This study provides a comprehensive view of the *GJFSM*’s evolution and growth trajectory between 2000 and 2020. The study provides an insight into the publication trend, citation structure, most contributing countries, citing journals, citing countries, special issues of *GJFSM*, keyword co-occurrences, co-citation analysis, and top journals in different domains of flexibility.

Initially, in 2000 the Journal published 8 articles that is treated as the incubation period for the Journal. A growth of around 350% is observed from 2000 to 2020. The citations of the Journal have an increasing trend from the year 2017. In 2020, the total citations of the Journal were 1033. Also, around 90.84% of the articles are at least cited once. The top publishing countries were sorted through the cite ratio. The most influential country with highest cite ratio was found to be France, followed by the UK and Denmark. The contributors are from across the globe, i.e., North America, South America, Africa, Asia, Europe, and the Pacific. The co-citation analysis has classified the Journal’s papers into six broad categories. They include

| Rank | Journal                                      | Publications on financial flexibility | Total publications | Percentage publication on financial flexibility (%) |
|------|----------------------------------------------|--------------------------------------|--------------------|-----------------------------------------------------|
| 1    | Global Journal of Flexible Systems Management | 18                                   | 463                | 3.89                                                |
| 2    | Journal of Corporate Finance                 | 17                                   | 1,630              | 1.04                                                |
| 3    | International Journal of Production Economics| 16                                   | 5,636              | 0.28                                                |
| 4    | Review of Financial Studies                  | 14                                   | 1,739              | 0.81                                                |
| 5    | Management Science                           | 12                                   | 3,597              | 0.33                                                |
| 6    | Journal of Financial Economics               | 11                                   | 2,168              | 0.51                                                |
| 7    | Managerial Finance                           | 11                                   | 1,474              | 0.75                                                |
| 8    | Financial Management                         | 9                                    | 637                | 1.41                                                |
| 9    | Journal of Business Research                 | 8                                    | 6,016              | 0.13                                                |
| 10   | Journal of Cleaner Production                | 8                                    | 22,545             | 0.04                                                |

| Flexibility areas          | Rank by total number of paper (total publications) | Rank by percentage publication (actual percentage publication) |
|----------------------------|---------------------------------------------------|-------------------------------------------------------------|
| Flexibility                | 3 (237)                                           | 1 (51.18%)                                                  |
| Strategic flexibility      | 1 (25)                                            | 1 (5.40%)                                                   |
| Organizational flexibility | 1 (99)                                            | 1 (21.38%)                                                  |
| Manufacturing flexibility  | 4 (90)                                            | 1 (19.44%)                                                  |
| Supply chain flexibility   | 3 (69)                                            | 1 (14.90%)                                                  |
| Information systems flexibility | 2 (30)                              | 1 (6.48%)                                                   |
| Marketing flexibility      | 3 (17)                                            | 1 (3.67%)                                                   |
| Financial flexibility      | 1 (18)                                            | 1 (3.89%)                                                   |
strategic flexibility, manufacturing flexibility, the conceptual framework of flexibility, supply chain flexibility, modeling flexibility, and the application of TISM.

Over the years, GJFSM has established itself as an essential journal in flexibility research. It is one of the top journals that publishes in diverse areas of flexibility such as information systems flexibility, organizational flexibility, manufacturing flexibility, supply chain flexibility, marketing flexibility, financial flexibility, and strategic flexibility. Despite publishing on numerous flexibility topics, GJFSM is oriented toward publishing works in the areas of cross-functional flexibility. It is aspired to lead the Journal to mature with more cross-functional flexibility research to address the contemporary and integrative application areas rather than functional flexibility alone. Further, diverse connotations and frameworks of flexibility, systematic and thematic reviews, meta-analysis, and novel methodologies would be the way forward for this evolving lead journal in flexibility research.

Appendix

See Tables 19, 20, 21, and 22.

Table 19 Citation structure of GJFSM

| Years | ≥ 20 | ≥ 10 | ≥ 1 | TP | h-index |
|-------|------|------|-----|----|---------|
| 2000  | 0    | 0    | 4   | 5  | 1       |
| 2001  | 1    | 4    | 17  | 20 | 6       |
| 2002  | 2    | 6    | 12  | 13 | 7       |
| 2003  | 3    | 4    | 11  | 13 | 6       |
| 2004  | 2    | 5    | 10  | 12 | 6       |
| 2005  | 2    | 6    | 15  | 15 | 7       |
| 2006  | 0    | 4    | 10  | 11 | 6       |
| 2007  | 0    | 2    | 12  | 14 | 5       |
| 2008  | 1    | 4    | 13  | 15 | 4       |
| 2009  | 2    | 5    | 19  | 20 | 8       |
| 2010  | 1    | 1    | 17  | 18 | 6       |
| 2011  | 1    | 2    | 11  | 12 | 4       |
| 2012  | 3    | 11   | 17  | 20 | 10      |
| 2013  | 5    | 11   | 20  | 20 | 10      |
| 2014  | 11   | 17   | 25  | 28 | 12      |
| 2015  | 6    | 12   | 25  | 25 | 11      |
| 2016  | 6    | 11   | 24  | 26 | 10      |
| 2017  | 4    | 11   | 24  | 24 | 11      |
| 2018  | 3    | 10   | 27  | 27 | 10      |
| 2019  | 1    | 10   | 24  | 27 | 10      |
| 2020  | 0    | 1    | 20  | 28 | 5       |
| Total | 54   | 137  | 357 | 393| Overall |
| %     | 13.74% | 34.86% | 90.84% | 100%| h-index = 33 |

Editorials and notes are excluded for the analysis.
### Table 20: Classification of contributing countries to *GJFSM*

| Continent  | 2000–20 | 2011–2015 | 2016–2020 |
|------------|---------|-----------|-----------|
| Africa     |         |           |           |
|            | Nigeria |           | Nigeria   |
|            | South Africa |       | South Africa |
|            | Tunisia |           | Tunisia   |
| Asia       | Bangladesh |       | Bangladesh |
|            | China |           | China     |
|            | Hong Kong |       | Hong Kong |
|            | India |           | India     |
|            | Indonesia |       | Indonesia |
|            | Iran |           | Iran      |
|            | Malaysia |       | Malaysia  |
|            | Israel |           | Israel    |
|            | Japan |           | Japan     |
|            | Jordan |           | Jordan    |
|            | Kazakhstan |       | Kazakhstan |
|            | Malaysia |       | Malaysia  |
|            | Oman |           | Oman      |
|            | Pakistan |       | Pakistan  |
|            | Qatar |           | Qatar     |
|            | Saudi Arabia |       | Saudi Arabia |
|            | South Korea |       | South Korea |
|            | Taiwan |           | Taiwan    |
|            | Thailand |       | Thailand  |
|            | Turkey |           | Turkey    |
|            | UAE |           | UAE       |
|            | Vietnam |           | Vietnam   |
| Europe     | Austria |           | Austria   |
|            | Czech Republic |       | Czech Republic |
|            | Denmark |           | Denmark   |
|            | Finland |           | Finland   |
|            | France |           | France    |
|            | Germany |           | Germany   |
|            | Germany |           | Germany   |
|            | Hungary |           | Hungary   |
|            | Ireland |           | Ireland   |
|            | Ireland |           | Ireland   |
|            | Italy |           | Italy     |
|            | Luxembourg |       | Luxembourg |
|            | Netherlands |       | Netherlands |
|            | Russian Federation |       | Russian Federation |
|            | Slovakia |           | Slovakia  |
|            | Spain |           | Spain     |
|            | Sweden |           | Sweden    |
|            | Switzerland |       | Switzerland |
|            | UK |           | UK        |
| North America | Canada | Canada | Canada |
|            | Trinidad and Tobago |       | Trinidad and Tobago |
|            | USA |           | USA       |
| Pacific    | Australia |       | Australia |
|            | New Zealand |       | New Zealand |
| South America | Brazil |       | Brazil    |
|            | Chile |           | Chile     |

### Table 21: Classification of countries citing *GJFSM*

| Continent  | 2000–20 | 2011–2015 | 2016–2020 |
|------------|---------|-----------|-----------|
| Africa     | Algeria |           | Algeria   |
|            | Cameroon |       | Cameroon  |
|            | Egypt |           | Egypt     |
|            | Ethiopia |       | Ethiopia  |
|            | Ghana |           | Ghana     |
|            | Ghana |           | Ghana     |
|            | Kenya |           | Kenya     |
|            | Morocco |       | Morocco   |
|            | Nigeria |           | Nigeria   |
|            | South Africa |       | South Africa |
|            | Sudan |           | Sudan     |
|            | Tunisia |           | Tunisia   |
|            | Uganda |           | Uganda    |
| Asia       | Bahrain |           | Bahrain   |
|            | Bangladesh |       | Bangladesh |
|            | China |           | China     |
|            | Cyprus |           | Cyprus    |
|            | Hong Kong |       | Hong Kong |
|            | India |           | India     |
|            | Indonesia |       | Indonesia |
|            | Iran |           | Iran      |
|            | Iraq |           | Iraq      |
|            | Israel |           | Israel    |
|            | Japan |           | Japan     |
|            | Jordan |           | Jordan    |
|            | Kuwait |           | Kuwait    |
|            | Lebanon |           | Lebanon   |
|            | Macao |           | Macao     |
|            | Malaysia |       | Malaysia  |
|            | Nepal |           | Nepal     |
|            | Oman |           | Oman      |
|            | Palestine |       | Palestine |
|            | Philippines |       | Philippines |
|            | Qatar |           | Qatar     |
|            | Saudi Arabia |       | Saudi Arabia |
|            | Singapore |       | Singapore |
|            | South Korea |       | South Korea |
|            | Taiwan |           | Taiwan    |
|            | Thailand |           | Thailand  |
|            | Turkey |           | Turkey    |
|            | UAE |           | UAE       |
|            | Vietnam |           | Vietnam   |
|            | Yemen |           | Yemen     |
Table 21 continued

| Continent | Countries | 2000–2020 | 2011–2015 | 2016–2020 |
|-----------|-----------|-----------|-----------|-----------|
| Europe    |           |           |           |           |
|           | Austria   | Austria   | Austria   |           |
|           | Belgium   | Belgium   | Belgium   | Cameroon  |
|           | Bulgaria  | Czech Republic | Bulgaria |           |
|           | Croatia   | Denmark   | Croatia   |           |
|           | Czech Republic | Estonia | Czech Republic |           |
|           | Denmark   | Finland   | Denmark   |           |
|           | Estonia   | France    | Estonia   |           |
|           | Finland   | Germany   | Finland   |           |
|           | France    | Greece    | France    |           |
|           | Germany   | Ireland   | Germany   |           |
|           | Greece    | Italy     | Greece    |           |
|           | Hungary   | Liechtenstein | Hungary |           |
|           | Ireland   | Lithuania | Ireland   |           |
|           | Italy     | Luxembourg | Italy     |           |
|           | Liechtenstein | Netherlands | Liechtenstein |           |
|           | Lithuania | Norway    | Lithuania |           |
|           | Luxembourg | Poland    | Luxembourg |           |
|           | Montenegro | Portugal  | Montenegro |           |
|           | Netherlands | Romania  | Netherlands |           |
|           | North Macedonia | Russian Federation | North Macedonia |           |
|           | Norway    | Serbia    | Norway    |           |
|           | Poland    | Slovakia  | Poland    |           |
|           | Portugal  | Spain     | Portugal  |           |
|           | Romania   | Sweden    | Romania   |           |
|           | Russian Federation | Switzerland | Russian Federation |           |
|           | Serbia    | Switzerland | Serbia    |           |
|           | Slovakia  | Spain     | Slovakia  |           |
|           | Slovenia  | Spain     | Slovenia  |           |
|           | Spain     | Sweden    | Switzerland |           |
|           | Sweden    | Switzerland | Ukraine |           |
|           | Switzerland | UK       | Switzerland |           |
|           | Ukraine   | UK        | Ukraine   |           |
|           | UK        |           |           |           |
| North America |           |           |           |           |
|           | Canada    | Canada    | Canada    |           |
|           | Cuba      | Honduras  | Cuba      |           |
|           | Honduras  | Mexico    | Jamaica   |           |
|           | Jamaica   | Trinidad and Tobago | Mexico |           |
|           | Mexico    | USA       | Puerto Rico |           |
|           | Puerto Rico | Trinidad and Tobago | USA |           |
|           | Trinidad and Tobago | USA |           |           |
|           | USA       |           |           |           |
| Pacific   |           |           |           |           |
|           | Australia | Australia | Australia |           |
|           | New Zealand | New Zealand | New Zealand |           |
|           | Papua New Guinea | Papua New Guinea | Papua New Guinea |           |
| South America |          |          |          |          |
|           | Brazil    | Brazil    | Brazil    |           |
|           | Chile     | Peru      | Chile     |           |
|           | Colombia  | Uruguay   | Colombia  |           |
|           | Ecuador   | Ecuador   | Ecuador   |           |
|           | Peru      | Peru      | Peru      |           |
|           | Uruguay   |           |           |           |

Table 22 Classification and number of top citing journals and articles of GJFSM (Compiled from: Scopus)

| Classification of Journal (as per Scopus) | No. of journals | No. of articles |
|------------------------------------------|-----------------|-----------------|
| Strategy and Management                  | 32              | 393             |
| Business and International Management    | 40              | 148             |
| General Business, Management and Accounting | 29              | 142             |
| Industrial and Manufacturing Engineering | 29              | 135             |
| Management Science and Operations        | 20              | 98              |
| Research                                 |                 |                 |
| Management of Technology and Innovation  | 23              | 69              |
| General Engineering                      | 26              | 64              |
| Information Systems and Management       | 17              | 63              |
| Marketing                                | 26              | 61              |
| Control and Systems Engineering          | 7               | 50              |
| Economics and Econometrics               | 22              | 43              |
| Information Systems                      | 16              | 41              |
| Organizational Behavior and Human Resource Management | 17              | 36              |
| General Decision Sciences                | 9               | 33              |
| Education                                | 19              | 32              |
| Computer Science Applications            | 15              | 29              |
| Management, Monitoring, Policy and Law   | 7               | 25              |
| Safety, Risk, Reliability and Quality    | 7               | 23              |
| Business, Management and Accounting      | 11              | 21              |
| (miscellaneous)                          |                 |                 |
| General Computer Science                 | 11              | 20              |
| Software                                 | 10              | 18              |
| Transportation                           | 5               | 18              |
| Environmental Engineering                | 5               | 18              |
| Management Information Systems           | 8               | 15              |
| Artificial Intelligence                  | 7               | 15              |
| Finance                                  | 10              | 14              |
| General Social Sciences                  | 11              | 12              |
| General Business, Management and Accounting | 10              | 12              |
| Library and Information Sciences         | 8               | 12              |
| Statistics, Probability and Uncertainty  | 4               | 12              |
| Multidisciplinary                        | 8               | 11              |
| Geography, Planning and Development      | 9               | 10              |
| Health Policy                            | 6               | 10              |
| Public Administration                    | 4               | 10              |
| Sociology and Political Science          | 7               | 9               |
| Computer Networks and Communications     | 7               | 8               |
| Modeling and Simulation                  | 6               | 8               |
| Mechanical Engineering                   | 6               | 8               |
| Civil and Structural Engineering         | 6               | 8               |
| Industrial Relations                     | 5               | 7               |
| Building and Construction                | 5               | 7               |
| Economics, Econometrics and Finance      | 4               | 7               |
| (miscellaneous)                          |                 |                 |
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**Key Questions**

1. What are the key flexibility areas published in GJFSM?
2. How can bibliometric analysis be performed for analyzing any Journal?

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