A Literature Review on Procurement Outsourcing in Supply Chain Management

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Abstract

The goal of this study is to systematically examine research reference trends related to procurement outsourcing in the supply chain management from 2000 to 2022. This research will focus on the development trend of procurement outsourcing research in the financial services industry on Scopus data-based scholar. A mixed method approach was used in this study, combining bibliometric methods and a literature review. From 2000 to 2022, 33 international publications with the keyword procurement outsourcing in the financial services industry were sourced from the Scopus scholar database via web scraping. According to the findings of this study, studies on procurement outsourcing in supply chain are dominated by several fields of study such as competitive procurement process, procurement function, behavior intervention product, simulation, complex equipment outsourcing, strategic procurement outsourcing, comparing, award outsourcing. According to the findings of this study, there are at least three major perspectives that are commonly used when discussing procurement outsourcing in the supply chain management. However, this does not imply that no other perspectives are used in addition to these findings. The research's limitation is the scope of the articles used, which were sourced from the Scopus database. The recommendations in this study can be used as hypotheses in the future, in addition to research with broader literature sources, and comprehensive and in-depth follow-up research can be conducted. The study's findings are expected to be useful to academics researching outsourcing procurement in the supply chain management.

Keywords
Procurement outsourcing, supply chain management, systematic review, bibliometric analysis, google scholar

1. Introduction

Not many studies have investigated the mediation of Procurement Outsourcing in supply chain management context. Abolbashari M, Chang E, Hussain O, 2018 Highlights the performance variables that influence the Procurement performance. Meanwhile, (Loertscher S, Riordan M, 2019) describes the importance of outsourcing in supply chain management integration. In this study, we analyze the model for deployment of Procurement Outsourcing in supply chain management. Transaction and type of purchase, eg. High-risk strategic versus Low-risk transactional purchase or high value versus low value, is more suitable for this model in order to improve procurement performance in financial industries. Transaction cost economics is one of the popular analytical tools in institutional economics. This transaction cost economy is used to measure how efficient or not is an institutional design.The higher, the transaction costs that occur in economic activities (transactions) of institution, the more inefficient is the design of the institutions. Based on the transaction cost theory developed by Ronald Coase in his book The nature of the Firm (1937) and The Problem of social cost (1960), in economic activity there are two (2) types of costs that can be identified, namely:

      1. Costs associated with physical production and distribution,
      2. The fees required for the exchange (transaction).
      Conceptually, this means that the total cost is not only determined by the summation of production costs (which are determined by technology and input used), but also the costs required to transaction, determined by the existing institutional arrangements.Procurement and supply management involves buying the goods and services that enable an organization to operate in a profitable and ethical manner. Responsibilities vary from sourcing goods and services to managing contracts and relationships with suppliers. Procurement is often responsible for up to 70% of companies' revenue, so small reductions in costs can have a huge impact on profits. (Chartered Institute of Procurement and Supply Management)

Organizations have long contended with which activities to perform in-house and which to buy in the market (Ellram et al., 2008). The contracting out of production activities has occurred for many decades by firms seeking the advantages of specialization, efficiency and economies of scale. However, the relatively new phenomenon of outsourcing services emerged only in the late 1980s. Three main factors underpin these trends: 1) technological advances; 2) economic/ competitive pressures to reduce costs and improve productivity; 3) institutional developments favoring trade liberalization (Olsen, 2006; Lysons and Farrington, 2020)

There are commonly known benefits of outsourcing in wide range of industries as follows:
Buying organizations can outsource peripheral tasks and focus on the core activities and competencies that add value and enhance process effectiveness (CIPS, Outsourcing,2022; Kotabe et al., 2008; Handfield and Nichols,1999). Outsourcing can help reduce costs through superior provider performance and the provider's low cost structure (CIPS: Outsourcing, 2022; Chase et al., 2004). Other potential benefits include access to innovation and improved risk management due to the provider's specialist knowledge (CIPS: Outsourcing, 2022). Through outsourcing a firm can obtain expertise (e.g. compliance with industry standards), skills and technologies from its providers that it did not have, or would not have been able to develop itself, because it does not have the degree of specialization that the provider has (CIPS: Outsourcing, 2022; Chase et al 2004).

On the other hand there are also disadvantages as follows:
Outsourcing work may lead to anxiety and job insecurity among procurement and supply management staff. Generally, unions do not support the relocation of processes to external providers, as outsourcing can potentially result in layoffs (Chase et al., 2004). Other potential risks include the loss of key skills and a reduced ability to change direction quickly (CIPS: Outsourcing, 2022). Security of information and data is a potential risk in business process outsourcing (Yang et al., 2007). Through outsourcing a firm can lose control over activities or knowledge that might be its competitive differentiator. For example, if a third party obtains direct access to a firm's dealer network, it may lead to some loss of its competitive advantage (CIPS: Outsourcing, 2022; Chase et al., 2004). Purchasing and supply management can be seen as a core competence that requires effective engagement across the firm's disciplines (sales, marketing, operations and so on) and project groups. The potential for losing sight of cross-functional policy issues and these critical connections means that outsourcing of the Procurement function may not be appropriate (CIPS: Outsourcing, 2022).

2. Literature review
2.1. Procurement Outsourcing

In a supply network consisting of a buyer, a purchasing agent, and a supplier, the buyer can procure the component from the supplier directly and rely on the purchasing agent for complementary services (named direct sourcing (DS)) or authorize the purchasing agent to conduct both procurement and complementary services named agent sourcing (AS). Wang et. Al 2020, shows that it is possible for procurement outsourcing to outperform in-house

sourcing with the consideration of issues such as demand information updating, two-echelon contract design, and downstream competition

2.2. Bibliometric analysis and literature review

Bibliometric analysis is a quantitative method for analyzing bibliographic data in articles/journals. This analysis is commonly used to investigate references to scientific articles cited in a journal, map the scientific field of a journal, and categorize scientific articles according to a research field. This method is applicable in sociology, humanities, communication, marketing, and management, among other fields. In bibliometric analysis, the citation analysis approach is used to find one article cited by another, whereas the co-citation analysis approach is used to find two or more articles cited by one. The words used in a document (co-words) can reveal the scientific concept contained within it. The co-occurrence of words or keywords in two or more documents used to index documents is the basis for co-word analysis (Effendy et al. 2021). While the literature in this study is based on data from Scopus publications, it is critically reviewed using a literature review approach. This research method is a critical analysis method used to conduct research on specific topics, in this case innovation management theory, by utilizing various literature sources (Knopf, J. W. 2006; Randolph, J. 2009; Booth, A., Sutton, A., and Papaioannou, D. 2016). This method is widely used in a variety of fields, including economics, management, and information technology.

3. Method

A mixed method approach was used in this study, combining bibliometric methods and a literature review (see Figure 1). From 2016 to 2022, this study makes use of international publication data from the Google scholar database with the keyword digital transformation in the construction industry (see Figure 2).
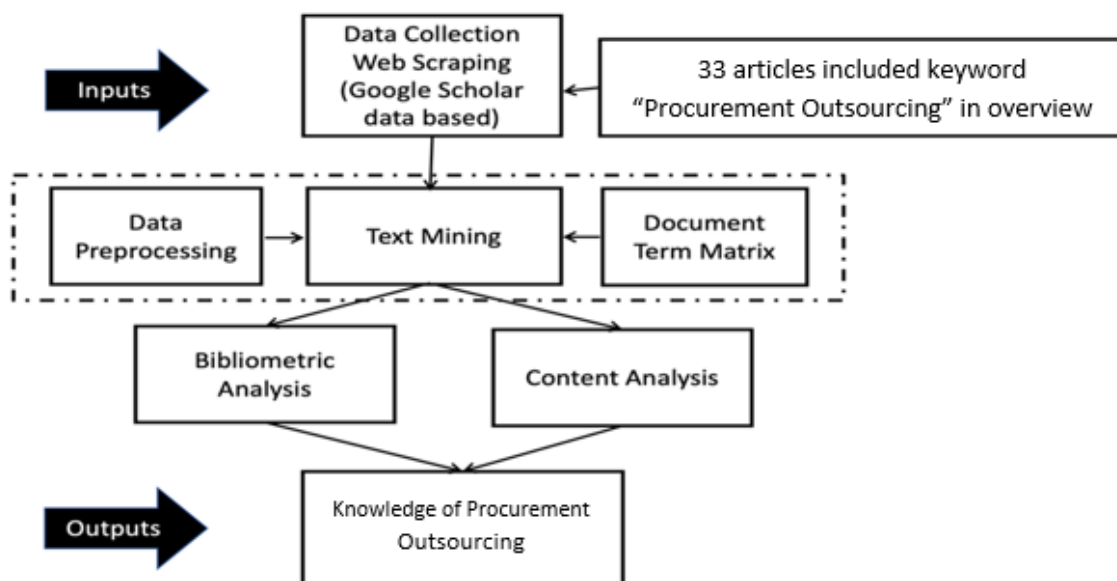

Figure 1. Literature review and bibliometric flow chart. Source: The author's own study, 2022

Litmaps was also used to examine data on the number of publications per year, journals with articles, authors, and topics. In addition, VOSviewer software is used to analyze the development trend of international publications, followed by qualitative content analysis. VOSviewer is software for creating and visualizing bibliometric networks. Individual journals, researchers, or publications can be included in these networks, which can be built on citations, bibliographic aggregations, co-citing, or co-authoring relationships. Text mining functionality is also included in VOSviewer for creating and visualizing co-occurring networks of key terms from scientific literature.

4. Result and discussion

4.1. Corpus profile

According to the context, Figure 2 depicts the number of articles used in this study. According to the review, procurement outsourcing studies in grew steadily between 2000 and 2022. Despite being less well-known than the topic of outsourcing research in other industries. This distribution trend, on the other hand, suggests that academics or researchers in the construction sector are paying more attention to this topic. Despite the fact that only stable one to two article has been published each year since 2013 to 2020, there is increased trend in 2020 whereas up to 6 articles were collected or increase of more than 200%. This data indicates that, in general, the trend of research in this field is increasing lately. The distribution of literature on the topic of digital transformation in the construction industry is depicted in the Figure 2.
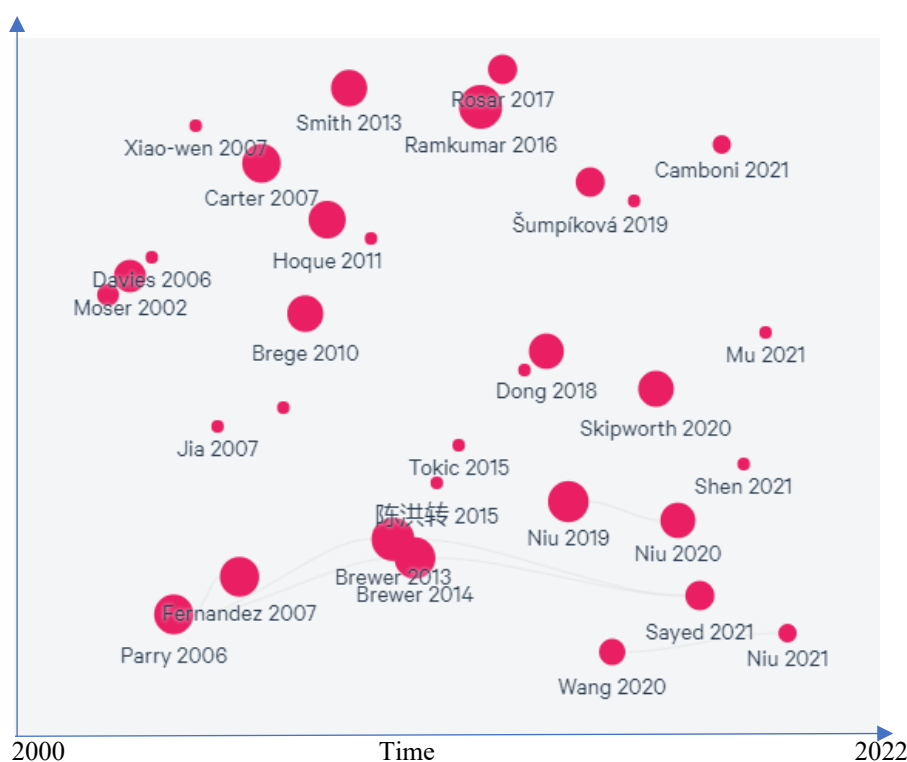

Figure 2. Distribution trend of scientific literature procurement outsourcing period 2000-2022. Source: The author's own study, 2022

Figure 2 shows that research on procurement outsourcing is a popular topic among researchers and academics. At least, this is demonstrated by the distribution, which continues to rise year after year. However, based on the network of articles, the picture shows that there are several researchers or articles that receive adequate attention or are widely cited by other authors. " Understanding the supply chain outsourcing cascade: When does procurement follow manufacturing out the door?" and "Supply supplier integration, procurement, and outsourcing: Case study of SCM social capital benefits" are among these articles. Nodes or circle illustrations in each article are fairly uniform in size, though some appear larger than others but are not significant. Some references have a relationship or cite each other, demonstrating the relationship between the articles. This relationship demonstrates that this scope is discussed on a regular basis. This correlation is critical for an issue in order for it to be studied thoroughly and integrated from various perspectives or fields of science.

4.2. The current trend of Procurement Outsourcing in Supply Chain Management research

In addition, the content of the articles or references used will be scrutinized, especially in terms of title and context. During this phase, the entire literature will be analyzed and classified as a text or corpus based on topic and context. This review uses DTM as the text mining process's output, which is visualized and analyzed qualitatively with VOSviewer.

4.3. The most recent publication in the field of procurement outsourcing in supply chain management

33 publications were obtained based on Scopus data search results for the keyword Procurement Outsourcing in the supply chain management with the categories of article title, abstract, and keywords from 2000 to 2022. It is known that the most publications were produced by Production Planning and Control, International Journal of Procurement Management, and IEE Transactions on Engineering Management, with as many as two articles being published. Table 1 displays research on the advancement of digital transformation in the construction industry published in the three most prestigious journals, as shown below in table 1.

Table 1. Top latest journals in the scope of Procurmeent Outsourcing in the supply chain management period 2000-2022. Source: The author's own study, 2022

No.	Name of Journal	Number of Articles
1	Production Planning and Control	2
2	International Journal of Procurement Management	2
3	IEEE Transactions on Engineering Management	2

Table 1 shows that the majority of the journals that discuss the issue of procurement outsourcing in the supply chain management have a background or scope of management and engineering. According to this data, there is no dominant journal or publisher discussing procurement outsourcing in the supply chain managment. This means that research in this area is still dispersed across different journals or publishers. What this review reveals is that procurement outsourcing in supply chain management, whether in theory or in practice, is frequently discussed through various scientific backgrounds. This finding also indicates that this context requires additional attention in terms of research management.

4.4. Comprehensive network analysis of procurement outsourcing in the supply chain managmenet

During this session, all articles will be bibliographically analysed using the VOSviewer tool. The network and density of articles will be visualized in this analysis. Figure 3 shows that the development map of the field of procurement outsourcing in the supply chain management from 2000 to 2022 can be divided into 9 clusters based on co-word analysis.

Action, optimal procurement, process perspective, procurement function, result, strategic outsourcing and theory are the items in the 1ˢᵗ Cluster. Case study, gain, next candidate, outsourcing, scm social capital benefit, supply supplier integration are the items of cluster 2. Cluster 3 contains 5 topics with items such as competitive dialogue, dynamic price, outsourcing contract, procurement, and production outsourcing. Cluster 6 contains phase, sourcing, Swedish public sector, telecommunications services, times outsourcing. Cluster 7 contains profit, retail information link, role, s coordination, social welfare. Cluster 8 consist of competitive contract manufacturer and cluster 9 contains door, manufacturing and supply chain outsourcing.
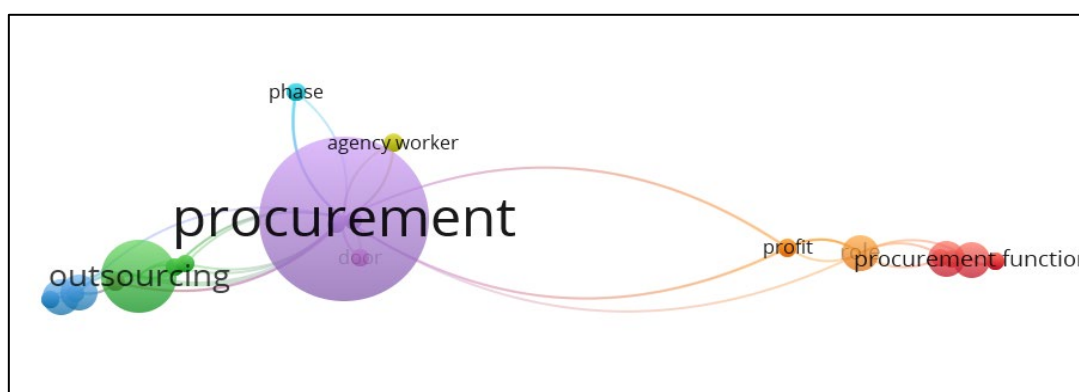
Figure 3. Procurement Outsourcing clustering by Author

The network analysis results are depicted in Figure 4, which show that the correlation between nodes was divided into nine network clusters. Inner cores are clusters with a high number of nodes and heavy edges. This cluster is a visual representation of the most frequently discussed issues in the procurement outsourcing supply chain management. An outer core, on the other hand, is a cluster with a low node occurrence frequency and a low edge weight. This cluster represents the issues that receive the least attention in the literature procurement outsourcing in supply chain management.

This review also shows that the weights of nodes and edges in the inner core network vary, as shown by the size scale of circles and connecting lines. The thicker the line connecting the two nodes and the larger the circle, the greater the weight or degree. Large-scale nodes and edges, it can be said, are frequently discussed issues at the heart of the topic of procurement outsourcing in supply chain management. Labeling each node, as indicated by the identity token, emphasizes this visualization. These tokens or nodes represent topics that have received significant attention in the literature.

Outsourcing by definition is an agreement in which one company hires another company to be responsible for a planned or existing activity that is or could be done internally, and sometimes involves transferring employees and assets from one firm to another. The visualization of the network analysis above is contextually related to the application or implementation of procurement outsourcing in the supply chain management based on this concept. As a result, some of the nodes that appear are associated with the procurement outsourcing.

The VOSviewer tool also visualizes density-based analysis. This means that based on the color density in the visualization area, this illustration will make it easier to identify the contexts that are most frequently studied.
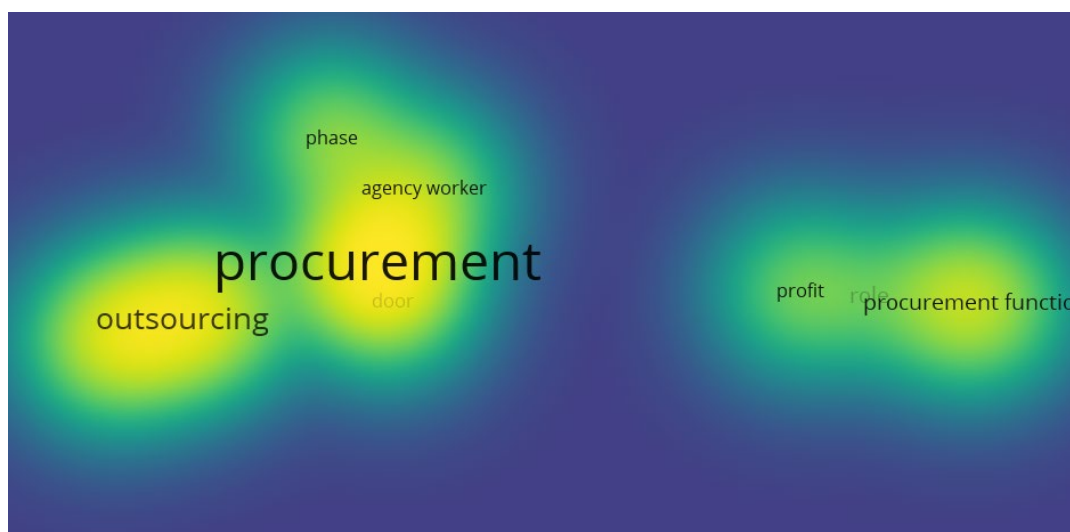

Figure 4. Density analysis of procurement outsourcing in supply chain management
Source: The author's own study, 2022

The review provides some critical information that can be classified into at least three major issues. First, based on the research location, it's worth noting that the major country that have served as research locations in the last twenty years have been Sweden. Meanwhile, based on the research approach used, the results of data analysis show that the majority of the research employs an empirical study approach and a case study. Comparative analysis and causal relationships are two examples of research methods also used. In other words, some studies compare the object under study to objects that have successfully implemented procurement outsourcing. Furthermore, several studies have been conducted to examine the impact of implementing outsourcing models on a variety of factors, including efficiency and productivity. In this field, descriptive qualitative methods are still the most commonly used approach. Although quantitative methods are still used, particularly in case studies to assess the success of procurement outsourcing.

Second, in terms of context or research scope, studies related to include procurement, manufacturing, management, production and telecommunication among others. According to the findings of the review of the field of study, this issue is frequently studied across a wide range of industries. In other words, the context of this

study is multidimensional or cross-industries. As a result, when studying procurement outsourcing in supply chain management, some researchers take multiple approaches.

Third, according to the review's findings, the following issues are frequently raised: Action, optimal procurement, process perspective, procurement function, result, strategic outsourcing and theory, case study, gain, next candidate, outsourcing, scm social capital benefit, supply supplier integration, competitive dialogue, dynamic price, outsourcing contract, procurement, and production outsourcing, sourcing, telecommunications services, times outsourcing, profit, retail information link, role, s coordination, social welfare, competitive contract manufacturer, manufacturing and supply chain outsourcing.

This study confirms that the visualizations that appear in network analysis are representations of issues that are frequently discussed based on the topics that are frequently researched. However, this review does not argue that low frequency is a minor issue. On the other hand, perhaps these issues (the outer core) are under-researched areas of study or approaches that are rarely used. This cluster may require additional attention in future research.

This study comprehensively and systematically formulates knowledge clusters that are frequently used to support studies related to procurement outsourcing in supply chain management, based on the framing of network analysis contexts and supported by literature.

5. Conclusion

Based on the findings and discussion of this study, it is concluded that the highest growth development in the topic field of procurement outsourcing in supply chain occurred in 2021, reaching 6 articles or an increase of up to 200 percent from 2021 Furthermore, the review reveals that the majority of the journals that discuss the issue of procurement outsourcing in supply chain management are engineering and management journals. This research also demonstrates that there is no dominant journal or publisher addressing the issue of procurement outsourcing in supply chain management. This means that research in this area is still dispersed across different journals or publishers. Furthermore, development maps are classified into 9 clusters based on co-occurrence and keywords. This review, on the other hand, summarizes the research trend of procurement outsourcing in supply chain management into three major issues. First, based on the research location, it's worth noting that the main country that have served as research locations in the twenty years have been Sweden. Meanwhile, based on the research approach used, the results of data analysis show that the majority of the research employs an empirical study approach and a case study. Comparative analysis and causal relationships are two examples of research methods used. In other words, some studies compare the objects that have successfully implemented procurement outsourcing. Furthermore, several studies have been conducted to examine the impact of implementing procurement outsourcing models on a variety of factors, including efficiency and productivity. In this field, descriptive qualitative methods are still the most commonly used approach. In terms of context or research scope, studies related to include procurement, manufacturing, management, production and telecommunication among others. According to the findings of the review of the field of study, this issue is frequently studied across a wide range of industries. In other words, the context of this study is multidimensional or cross-industries. As a result, when studying procurement outsourcing in supply chain management, some researchers take multiple approaches. Of course, many unexplored perspectives remain unexplored because they are not dominant perspectives. This is especially true when one considers how some researchers tend to use multiple approaches. As a result of this analysis, the contexts that are frequently discussed are also interindustry or multi-industry issues. The scope of the articles used, which were sourced from the Scopus database, is the research's limitation. In the future, it is strongly advised to conduct research using a broader literature source. Furthermore, the findings of this study can be used as hypotheses, and comprehensive and systematic follow-up research is being conducted. The findings of this study are expected to serve as a resource for academics researching procurement outsourcing in supply management.

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