

## A BIBLIOMETRIC ANALYSIS OF MIDDLEMEN RESEARCH: A CLOSER LOOK AT AGRICULTURAL MARKETING

Savelia Salsa Bila<sup>\*1</sup>, Idqan Fahmi<sup>\*</sup>, Suprehatin<sup>\*\*</sup>)

<sup>\*</sup>School of Business, IPB University  
Jl. Pajajaran, Bogor 16151, Indonesia

<sup>\*\*</sup>Departement of Agribusiness, Faculty of Economics and Management, IPB University  
Jl. Kamper Wing 4 Level 5 IPB Campus, Bogor 16680, Indonesia

### Article history:

Received  
6 August 2022

Revised  
23 August 2022

Accepted  
9 September 2022

Available online  
31 December 2022

This is an open access  
article under the CC BY  
license ([https://  
creativecommons.org/  
licenses/by/4.0/](https://creativecommons.org/licenses/by/4.0/))



**Abstract:** The presence of an aggregator business in agricultural marketing complicates the current understanding of middlemen. The presence of intermediaries has begun to be questioned and even considered a threat to the supply chain. This study aims to (1) analyze the evolution of research middlemen in influencing agricultural marketing and (2) identify what issues are developing in middlemen in agricultural marketing. Data were analyzed from 425 journals registered with Scopus from 1974 to 2021. The data were then processed and analyzed using Tableau, Ms. Excel, and VOSviewer. It generates bibliometric maps against middlemen in agricultural marketing through bibliometric analysis. The development of the middlemen issue discusses its implications for agribusiness management, social capital, value chains, and prices. The existence of middlemen cannot be fully considered as threatening the supply chain. The involvement of middlemen in the supply chain still has a strong influence on farmers, especially in developing countries.

**Keywords:** agricultural marketing, bibliometric analysis, middlemen, supply chain, VOSviewer

**Abstrak:** Hadirnya bisnis aggregator dalam pemasaran pertanian memperumit pemahaman yang ada tentang tengkulak (middlemen). Kehadiran tengkulak mulai dipertanyakan bahkan dianggap mengancam rantai pasok. Penelitian ini bertujuan untuk (1) menganalisis evolusi penelitian tengkulak (middlemen) dalam memengaruhi pemasaran pertanian dan (2) mengidentifikasi isu apa saja yang berkembang pada middlemen dalam pemasaran pertanian. Data diolah dari 425 jurnal yang terdaftar di Scopus sejak tahun 1974 hingga tahun 2021. Melalui metode bibliometric analysis, data kemudian diolah dan dianalisis menggunakan Tableau, Ms. Excel dan VosViewer untuk menghasilkan peta bibliometric terhadap middlemen di pemasaran pertanian. Perkembangan isu middlemen membahas implikasinya terhadap manajemen agribisnis, sosial kapital, rantai nilai, dan harga. Keberadaan middlemen tidak bisa sepenuhnya dianggap mengancam rantai pasok, keterlibatan middlemen dalam rantai pasok masih memiliki pengaruh kuat terhadap petani khususnya di negara-negara berkembang.

**Kata kunci:** bibliometrik analisis, rantai pasok, tengkulak, pemasaran pertanian, vosviewer

<sup>1</sup> Corresponding author:  
Email: [saveliasavelia@apps.ipb.ac.id](mailto:saveliasavelia@apps.ipb.ac.id)

## INTRODUCTION

The food supply chain is becoming more complicated due to globalization, the Covid-19 pandemic, and increasing consumer demand for food traceability (Christiansen, 2020). Complex supply chains require stakeholders to work together, ensure food safety standards, and produce best practices for the agricultural economy (Christiansen, 2021). According to Suárez Puello and Baquero-Ruiz (2012), stakeholders in the food supply chain consist of producers, middlemen, wholesalers, retailers, and clients/consumers. Every stakeholder in the supply chain has a significant influence, one of which is the middlemen. Arsyad et al. (2018) revealed that middlemen have at least four essential roles in the food supply chain. They are providers of input/capital, a provider of the production process, a supporter of post-harvest activities, and a supporter in socio-religious roles providing loans for farmers to meet their daily needs. Middlemen can have a strong position against small farmers or small farmers. Van Driel (2003) also revealed that the primary function of middlemen is to absorb some of the risks faced by buyers and sellers.

On the other hand, the presence of middlemen is a challenge, especially for producers or farmers. Due to the ineffective and inefficient information gap, middlemen have become guardians of information by reducing the bargaining power of farmers in the market (Nchimbi et al. 2022) Agriculture Supply Chain (ASC). Middlemen also have a strong influence in suppressing product prices, resulting in price discrimination (below the prevailing market price). To increase production, farmers face high costs, but they can hardly get a fair price for their products from middlemen (Oguoma et al. 2010). Even under some conditions, as Oguoma et al. (2010) expressed, some middlemen delay production by insisting on prices. Finally, the farmers must throw it away. Therefore, the presence of middlemen is considered a threat to food security.

Koshy et al. (2021) small retailers and consumers. Scholarship on agro-food geographies has paid close attention to some of the issues and institutions in FSCs, attending to the role of capital and variations in the spatial practices of their functioning. It has been less attentive to the implications of newer, emerging forms taken by interventions along the food supply chain by emerging distribution-led food businesses that leverage data technologies to streamline and expand their influence. Based on qualitative research conducted of

seven food-based Business to Business (B2B) revealed that one way to overcome the issue of middlemen is to shorten the supply chain by eliminating middlemen through shortened food supply chains (SFSC). SFSC is the right supply chain system for small farmers' organic and local food products (Windayanti, 2018). Other studies also discuss how to increase the bargaining positions of farmers from middlemen (e.g., Andriawan, 2021; Arrozi, 2019; Zapata et al. 2016). Especially for smallholders or small farmers, the discussion aims to weaken their dependence in the supply chain on middlemen. Along with the development of technological changes, attention to SFSC is increasingly complex, with the presence of business aggregators, one of which is e-commerce. E-commerce is an alternative distribution channel included in web/mobile channels to cut the distribution chain from producers to consumers (Blank and Dorf, 2012). Aggregators are also collectors and intermediaries (Tapasvi, 2009). However, in this concept, aggregators are modern actors who use digital technology as an intermediary business model to create farmers' profits (Jahroh and Meilala, 2021).

The presence of this aggregator business aims to directly connect producers (farmers) with consumers while simultaneously resulting in overall intervention along the supply chain (Figure 1). Many are concerned about the increasing influence of private interventions along the supply chain, from contract farming to marketing (Marsden and Wrigley, 1995). The presence of this aggregator business aims to directly connect producers (farmers) with consumers while simultaneously resulting in overall intervention along the supply chain (Figure 1). This concern also complicates the role of middlemen in understanding the existing supply chain. Especially with the emergence of small but rapidly growing e-commerce in the agricultural space, which intervenes in the Business to Consumer (B2C) and Business to Business (B2B) sectors, it implies 'disrupting' the existing supply chain (Koshy et al. 2021).

Therefore, the main objective study is to deepen our understanding of the concept of middlemen in scientific research by observing the evolution of topics that have developed towards middlemen. Through bibliometric analysis of middlemen regarding the development of publications is done by answering the question (Q1) how has the literature on middlemen in the agricultural industry evolved? And (Q2) what are the main topics/issues in the scientific literature about the middlemen of that time, especially in today's digital era?

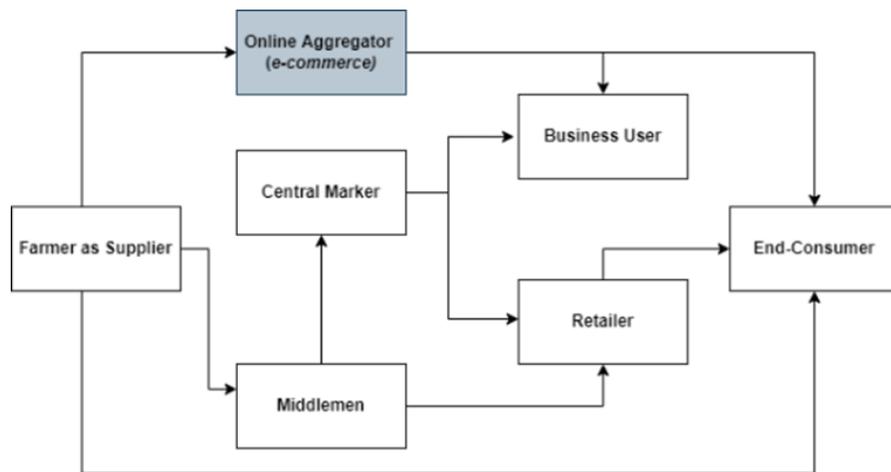


Figure 1. Agricultural online aggregator business product flow

There are two bibliometric analysis procedures to achieve the objectives: performance analysis and scientific mapping analysis. Furthermore, this study will discuss a more detailed methodology, especially the search strategy and data analysis. Then, the results of the bibliometric analysis are presented, including the results of the performance analysis and scientific mapping analysis. Finally, the results will be combined and summarized to suggest future research directions regarding the middlemen concept.

## METHODS

The bibliometric methodology encapsulates quantitative techniques on bibliometric data and summarizes a field's bibliometric and intellectual structure by analyzing the relationships between different research components (Donthu et al. 2021). This analysis also intends to analyze the content, pattern, and trend of a collection of documents by measuring the relationship strength of terms. It provides both a science mapping and a performance analysis that helps establish the thematic evolution of a field of research (Mac Fadden et al. 2021). This study found a process to determine the topic, scope & eligibility; screening; including literature search results; selection of software; and analysis and results, as shown in Figure 2.

### Topic, Scope, Eligibility

The database selected in this study is Scopus. The literature search follows the theme to be studied, namely Middlemen in agricultural marketing, so the chosen keywords relate to (1) middlemen, (2) market, and (3) agriculture (Table 1). In the search, a combination of all

relevant concepts from three different concept groups (middle\*, market\*, and agri\*) was used using the Boolean "AND". Truncation (\*) ensures that no one will omit the relevant literature from the study. Related terms were added to middlemen, market, and agri keywords and used the boolean separator "OR" in each keyword concept. The publication limit is not limited; the search intends for the title, abstract, and keywords.

### Screening and Included

The first search results, extracted on 21 February 2022, were as many as 2025 articles. Further, do the refining so that the articles analyzed are by the desired research scope. In this study, refining was carried out four times, namely limiting (1) English and Indonesian, (2) document type, namely articles, (3) source type, namely journal, and (4) access type, namely open access. In addition, the authors also do the elimination based on the title and abstract. The following results obtained 425 articles which will then be analyzed using bibliometric analysis.

### Selection of Software

Analysis tool using three software to support the management and analysis of the data obtained. Tableau is used to speed up the visualization of data processing, especially to generate publication and citation trends. Microsoft Excel 2019 is a generic spreadsheet used to manage data tables and generate figures related to top authors, most cited papers, top countries, and top institutions in research around agricultural middlemen. VOSviewer displays basic bibliometric maps to extract from co-occurrence, co-citation, co-country, and co-word analysis.

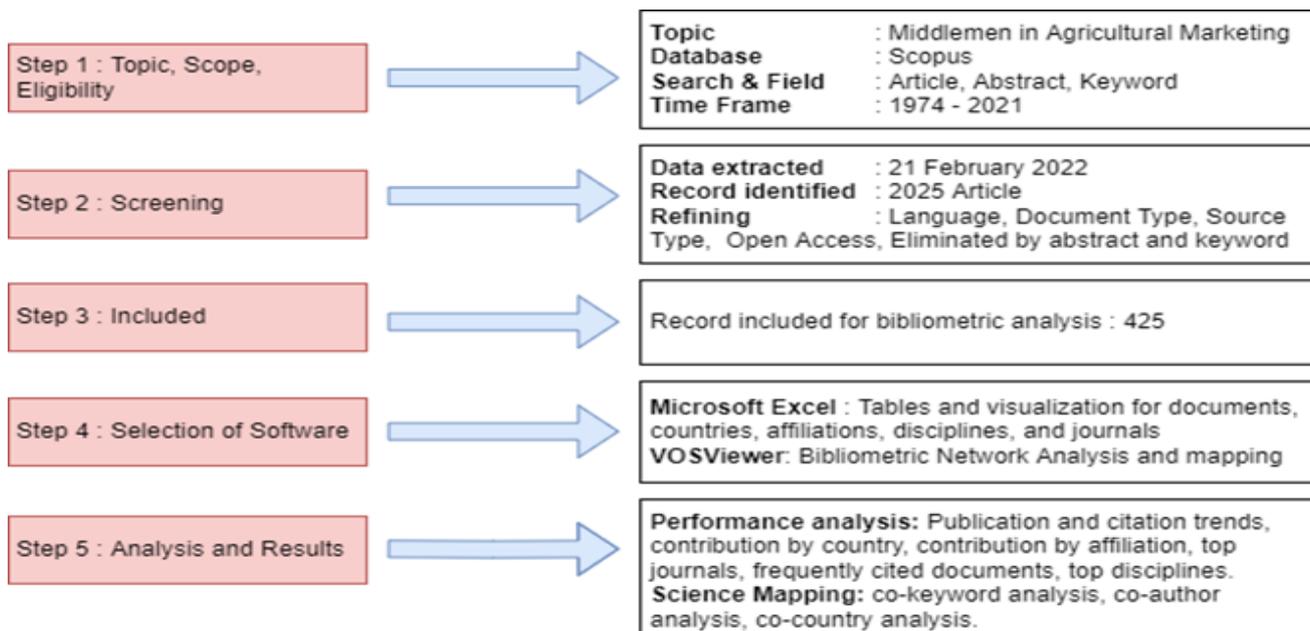


Figure 2. Methodological schema for bibliometric analysis

Table 1. Search strategy

Search	Search strings
Middlemen	TITLE-ABS-KEY (middlem* OR "middle market*" OR "the middlem*" OR "first-level middlem*" OR "role of the middlem*" OR broker* OR mediator OR trader*) AND
Market	TITLE-ABS-KEY (market* OR e-market* OR "electronic market*" OR "digital market*" OR "market* digital" OR "e-commerce" OR "electronic commerce" OR "market* system" OR "open market*" OR "market* power" OR "market* access") AND
Agri	TITLE-ABS-KEY (agri* OR farm* OR food* OR agro*)

### Analysis and Results

There are two sections to data analysis. The first is performance analysis, mapping the growth pattern of publications, identifying contributions made by countries, universities, and authors, and identifying the most prominent journals related to middlemen in agriculture. Second is the analysis of knowledge mapping by looking at the intellectual structure through bibliometric maps. Specifically, it checks the occurrence of author keywords, countries, and authors.

However, from 1985 to 2021, there were fluctuations until it reached the highest point in 2021 with a total of 43 papers. The publication trend increased with 83.8% of publications from 2000 to 2021.

Meanwhile, in citations, from 1974 to 2021, fluctuations continued. However, from 1999 to 2021, the number of citations experienced significant growth compared to the previous period. The total citations in 1999-2021 were 3,898 or 87% from 1974 to 2021.

### Top countries, top affiliates, and co-country analysis

The following are the ten most productive countries related to middlemen in agriculture in the study in Table 2. A total of 556 articles representing 81 countries. There is a possibility that several articles repeatedly appear in different countries, so it seems to make the articles analyzed exceed the actual number of articles analyzed, which is 425.

## RESULTS

Figure 3 analyzes total annual journals and citations from 1974 to 2021. The bar chart (blue) shows the number of citations appearing per year, while the line chart (orange) shows the number of published articles. In article publication, the number of publications was stable in the first ten years, with only one paper per year.

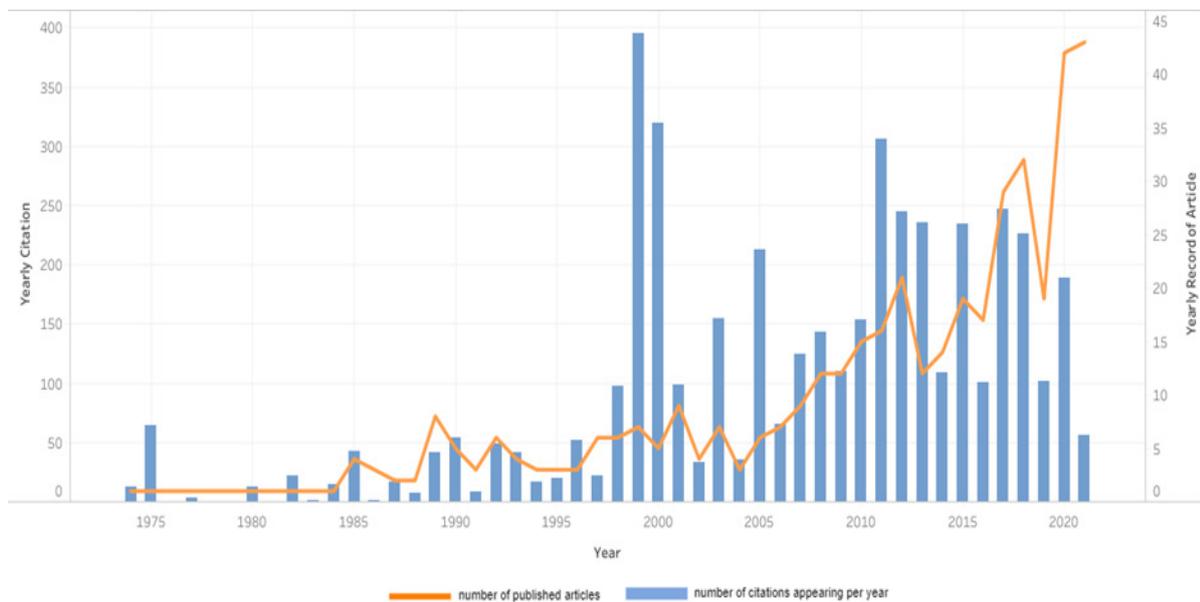


Figure 3. Yearly article and yearly citation for "middlemen in agricultural marketing"

Table 2. Top 10 Countries for search on “middlemen in agricultural marketing.”

Country	Article	% of 556
United States	96	17.27%
India	57	10.25%
Indonesia	29	5.22%
Germany	25	4.50%
Australia	24	4.32%
United Kingdom	23	4.14%
Netherlands	17	3.06%
China	16	2.88%
Ethiopia	16	2.88%
Kenya	16	2.88%

The countries with the largest population in the world occupy the top three positions, namely the United States, India, and Indonesia. If combined, it identified more than 35% of global research on middlemen in agricultural marketing. Overall, 6 out of 10 countries are among the 20 most populous countries globally, according to Worldometer (2022). In addition, are the United Kingdom, Australia, Netherlands, and Kenya.

Furthermore, table 3 shows the ten most productive affiliates discussing middlemen in agricultural marketing, with a total of 909 articles representing 471 affiliates. Likewise, with the analysis of top affiliates, several articles can appear simultaneously in different affiliates so that the total number of articles calculated may exceed the number of articles analyzed.

In Table 3, the most productive institutions from Kenya and Uganda are Makerere University, the World Agroforestry Center (ICRAF), and Egerton University, a developing African country. While the bottom three institutions, the University of California, the University of Copenhagen, and The Ohio State University, come from states in the United States and Europe which are developing countries. Furthermore, the co-country analysis uses the association strength method to use VOSViewer with the clustering process. It includes only countries with a minimum of four articles, so 35 countries were divided into 4 clusters. Clusters represent closely related sets of states, and states that occur together more frequently tend to be closer in visualization (van Eck and Waltman, 2021)(Figure 4).

Each node (circle) size indicates the number of documents associated with a country. The line represents co-occurrence between two states and appears when states occur together at least three times. The United States collaborates the most with 21 links with other countries globally. Other countries that cooperate with the United States the most are India, Indonesia, and the United Kingdom. Meanwhile, the countries with the lowest collaborations are Nigeria, Austria, Sweden, and Saudi Arabia.

**Most cited articles and top sources**

Table 4 shows that these mechanisms include formal and informal networks of working relationships, customer friendships, preexisting networks, and intermediaries. Studies show that trust is necessary for developing a dynamic private sector based on micro-enterprises in conditions where actors cannot rely on current formal legal institutions.

Meanwhile, Table 5 shows the top ten sources or journals that issue the most articles related to “middlemen in agricultural marketing.” One thousand seventy (1070) titles identify from ten sources. The journals identified are generally associated with developing living standards and humanity, food policy, marketing, economics, and rural development. There are three multidisciplinary journals, namely World Development, Food Policy, and the British Food Journal, two of which occupy the top three positions. Overall, the top 10 journals had an impact factor –times the average paper in a journal was cited– of 4.988 over the past two years (2020).

Table 3. Top 10 Affiliations for search on “middlemen in agricultural marketing.”

Affiliations	Article	% of 909
Makerere University	14	1.54%
Not reported	12	1.32%
World Agroforestry Centre (ICRAF)	10	1.10%
Egerton University	9	0.99%
Michigan State University	9	0.99%
Ministry of Food and Agriculture	9	0.99%
The WorldFish Center	9	0.99%
University of California	9	0.99%
University of Copenhagen	8	0.88%
The Ohio State University	7	0.77%

Table 4. Most cited articles

Paper	Total Citations
Lyon F, 2000, World Dev	239
Muradian R, 2005, World Dev	149
Renard M-C, 1999, Sociol Ruralis	139
Sidali KI, 2015, J Sustainable Tour	134
Fafchamps M, 1999, J Dev Stud	118
Kim E, 2013, Int J Hosp Manage	107
Ruben R, 2011, Supply Chain Manage	93
Minten B, 1999, J Dev Econ	87
Jang Ss, 2011, Int J Contemp Hosp Manage	74
Wiegatz J, 2010, Rev Afr Polit Econ	66

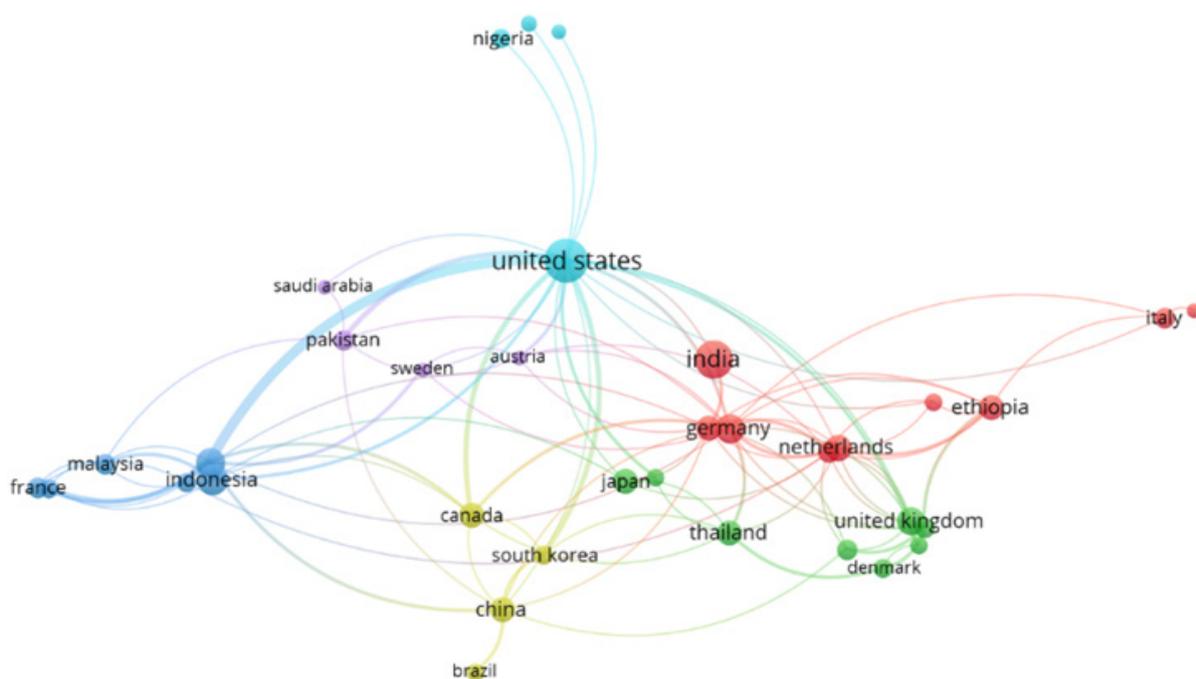


Figure 4. Co-country network for "middlemen in agricultural marketing"

Table 5. Top ten sources on “middlemen in agricultural marketing.”

Sources	Articles	2-Year Impact factors (2020)
World development	184	5.278
American journal of agricultural economics	182	4.082
Food policy	111	4.552
Journal of marketing	111	9.462
Journal of business research	100	7.550
British food journal	91	2.518
Journal of futures markets	76	2.013
Journal of marketing research	74	5.000
Econometrica	71	5.844
Agricultural economics	70	3.581

**Most productive authors, most cited authors, and co-author analysis**

Table 6 shows the top ten most productive authors in article publication and the top ten most-cited authors. The calculation categories use VOSViewer, so each article and document is assigned the same weight regardless of the total number of authors in the report. In citations, there is no minimum threshold for the papers used.

Several authors appear in each category, such as Reardon, Minten, Ross, Roos, and Lusch. However, their position is quite similar. Reardon is in the first position in the number of articles but the third position in the most citations, while Minten is the opposite. Ross, Roos, and Lusch occupy different roles in each category. The three of them are always consecutive.

Furthermore, through VOSViewer, a co-author analysis was carried out, with the cluster method used as association strength. Out of 1110 authors, it features only authors with a minimum of two articles. Thus, Figure 5 presents the 60 authors. The cluster represents a collection of closely related authors and authors who are more co-accurate, tending to be closer to each other in network visualization (blue, green, yellow, red, light blue, pink, and orange).

**Keyword occurrences and co-occurrences**

At this stage, the writer analyzes the keywords using VOSViewer. The results identified as many as 1317 author keywords. The top 10 keywords are sorted by occurrences and shown in Table 7.

Next, using the co-occurrences analysis in VOSViewer, the author’s keywords are visualized in figure 6. It preserves only authors’ keywords with a minimum of 3 occurrences to narrow the visualization, so there are 69 authors’ keywords. In addition, the thesaurus file combines different variants of keywords with different spellings but with the same meaning. In addition, the thesaurus can also help correct spelling differences and combine abbreviated terms using full terms. So that after going through the thesaurus file process, 57 keywords were obtained, divided into three groups (green, red, yellow, and blue; see Figure 6).

Clusters represent collections of nodes that are closely related, and terms that occur more frequently tend to be closer to each other in the figure (van Eck and Waltman, 2021). It clusters form using the association strength method. To facilitate analysis and reduce small clusters, at least 13 items were asked to be included in one cluster. In the sub-sections, below is a narrative overview of several themes divided by cluster and the main trends in each cluster. However, these summaries are meant to be illustrative and are not exhaustive (Moustakas, 2022).

**Cluster Red: Agribusiness management and middlemen.**

In this cluster, most focus on how middlemen impact agricultural marketing, especially in various marketing measures such as purchase intention, performance, innovation, and efficiency, and multiple strategies such as agricultural policy (cooperatives), risks, and supply chains. Ethiopia (African states) and India became developing countries representing agricultural marketing activities quite a lot in various related studies.



In general, there is a negative relationship between efficiency and middlemen. Paul et al. (2020), Upe and Aswan (2021), and Deep et al. (2021) say the efficiency of different channeled marketing is highest when there are no marketing intermediaries involved between producers and consumers. Upe and Aswan (2021) also revealed that this channel only slightly increases prices for producers compared to other channels (involving middlemen). As for different perspectives, Kaygisiz and Akdağ (2021) argue that the efficiency in choosing a marketing channel is to include middlemen. Kyomugisha et al. (2017) also say that all channels can be profitable and efficient; what distinguishes them is their efficiency range. The relationship is influenced by agricultural heterogeneity, especially in developing countries with complex and lengthy distribution channels.

Profit margin (profit margin) is also an indicator of marketing efficiency. Mariyono et al. (2020) and Mustafiz et al. (2021) say that each middlemen level applies a specific margin distribution across the supply chain from producer to end consumer. However, it turns out that farmers do not necessarily choose efficiency over higher price margins. As explained, Paul et al. (2020) strangely found that more than 80% of farmers prefer to trade their products through the most inefficient channels, where only 45% of consumer prices go down to producers.

Another segment of this cluster oversees how agricultural policies remain in leading the role of middlemen and other actors in the supply chain of Paul et al. (2020); Gebre et al. (2020); Chanie and Abewa (2021); and Sunyigono et al. (2021) argues that facilitating farmers with cooperatives is the best policy so far. Accompany this policy by strengthening this policy with solid regulations that can control the collectors operating in agribusiness lines so that the market impact on the sector is not too extreme (Mariyono et al. 2020). With the existing infrastructure conditions, farmers have no choice but to follow the orders of the middlemen; therefore, the steps to be taken are the arrangement, the market infrastructure, and institutions to improve the functioning of the marketing system.

#### Cluster Blue: Social capital and middlemen

The blue cluster explores how social capital significantly impacts agricultural marketing between middlemen and farmers. Africa is the second largest continent in the world with an overall developing region, where the practice of

middlemen with developing countries means having a positive relationship. It is because many small farmers still find it challenging to meet transportation costs and need the role of middlemen in reaching the market. In addition, in rural areas, farmers choose to sell through middlemen due to a lack of market information and relatively small production quantities (Piabuo et al. 2020). According to Lyon (2000) and Robinson (2016), social aspects such as trust in developing regions become very important because formal contracts do not protect most transactions. The element of trust is used in trading practices and to meet farmers' needs by providing credit or loans. However, not all these lending practices were successful, and there were also incidents of "fail to pay" so that middlemen had to bear the risk. Therefore, loan volume is one of the factors that is taken into account to provide confidence in providing loans. A higher volume of more reliable loans will increase the incentive for repayment (Poulton et al. 1998). Lyon (2000) also reinforces that adding some risks at the beginning, namely increasing the amount given, will reduce the possibility of default. In the mechanisms of the agricultural market, many transactions are so complex that the law is impossible to cover all uncertain circumstances. The aspect of trust is crucial in a situation characterized by imperfect information and a lack of adequate legal mechanisms.

#### Cluster Green: Value chain, farmer, and middlemen

In this cluster, we look more deeply into how middlemen and farmers can overcome supply chain problems such as post-harvest losses and the lack of food policies. Ahmad et al. (2019) and Weinberger et al. (2008) saw that the causes of losses from post-harvest losses had a more significant effect on farmers and middlemen. Farmers lose because they lose control of product prices, while middlemen lose because they fail to sell their products to the market. It is necessary to increase product quality standardization, maintenance training, management of marketing costs, and control of various factors for middlemen. Middlemen are a field that affects farmers' income. They have not received more attention in managing the marketing of agricultural products. Ngeleza and Robinson (2013) suggest that policymakers would do better to focus on opening-up access to the urban markets rather than on strengthening farmers' bargaining power with the middlemen, which restricts market volumes further and harms farmers unable to sell to middlemen.

## Cluster Yellow: Price and middlemen

This cluster discusses the relationship between price and middlemen's role in more detail. Until now, middlemen had high bargaining power in setting prices in the agricultural market. According to Ngeleza and Robinson (2013), this is due to the transfer of risk and transportation costs to middlemen. Meanwhile, according to Piabuo et al. (2020), middlemen have access to market price information that fundamentally affects the price itself. Other thoughts, Mwembe et al. (2021) and Poulton et al. (1998) said the need for credit and cash directly from the middlemen became the basis of the middlemen's power in regulating prices. Commodity prices in agricultural markets are changing uncertainly, making farmers dependent on the information held by middlemen. The difference in the price determined is that not all commodities are the same, depending on the commodity's supply chain. The impact of price-fixing from middlemen to farmers also does not end in losses. It depends on area commodities, location access, and market systems. In the case of Ngeleza and Robinson (2013), middlemen had to bring perishable tomatoes to cities in Ghana. Farmers accused middlemen of offering unfairly low prices. However, it turned out that considering transportation costs, the prices offered were higher than those received by farmers in rural markets in the local countryside. While in the case of Piabuo et al. (2020), with potato commodity, which is not perishable, middlemen intervention cannot influence farmers significantly in organizing sales. In addition, if farmers use cellular telephones and networks of relatives in urban areas to access information, it can increase farmers' bargaining power in price differences.

### Managerial Implications

This research has important managerial implications for actors along the agricultural market supply chain, especially middlemen. The results of this study can refresh their position to adapt to providing better value to farmers and partners or aggregators. In addition, for governments in developing countries, including Indonesia, this study reflects the need for intervention in supply chain infrastructure for every actor who plays a role. Constraints of concern are improving the quality of farmers and middlemen in improving food security.

## CONCLUSIONS AND RECOMMENDATIONS

### Conclusions

Through bibliometric analysis, research on Middlemen from 1974-2021 seeks to see the development of issues, especially those in developing countries. The results show fluctuations in publications and citations, especially in the last 20 years. In addition, the contribution of this research includes how middlemen have a significant effect on farmers in social capital, especially the aspect of trust. Furthermore, in terms of marketing, especially efficiency and effectiveness for farmers, many have negative implications, which is better if there are no middlemen in the supply chain. However, this cannot be used as a general conclusion because each commodity's value chain condition is different. In terms of the value chain, the role of middlemen also lacks attention in efforts to improve quality, dramatically affecting farmers' profits and, more broadly, maintaining food security. Finally, the influence of middlemen on prices is quite substantial because of the transfer of risk, transportation costs, access to information, credit, and direct cash. Thus, although considering many middlemen has negative implications for efficiency and effectiveness (depending on the supply chain conditions), a decisive social factor, namely "trust", makes farmers unable to escape from middlemen. Even in some cases, middlemen benefit farmers, especially in transferring risks and costs. Hence, the current focus is better on efforts to improve the quality of middlemen that affect farmers' profits.

### Recommendation

Further bibliometric research can be expanded beyond Scopus sources to gain deeper insights. The objects' scope can break down into commodities, intermediate levels, and others.

## REFERENCES

- Ahmad A, Iftikhar M, Shahbaz B, Igodan CO, Lechman K, Khan GA. 2019. Assessment of skills gap among intermediaries of cotton supply chain in Punjab, Pakistan. *International Journal of Agricultural Extension* 6(3):186–191. <https://doi.org/10.33687/ijae.006.03.2644>.
- Andriawan R. 2021. *Dampak E-Commerce Terhadap Pendapatan Usahatani: Studi Kasus Petani*

- Salak pondoh di Kabupaten Sleman*. Yogyakarta: Universitas Gadjah Mada.
- Arrozi AM. 2019. *Pengaruh E-Commerce Pertanian Terhadap Perubahan Struktur Petani*. Bogor: IPB University.
- Arsyad M, Heliawaty, Kawamura Y, Yusuf S. 2018. Agricultural development-marketing nexus: is tengkulak truly enemy of smallholders in Indonesian rural area? *International Journal of Agriculture System* 6(1):60–67. <https://doi.org/10.20956/ijas.v6i1.1498>
- Blank S, Dorf B. 2012. *The startup owner's manual*. Ed ke-1. California: K&S Ranch Press.
- Chanie Y, Abewa A. 2021. Expansion of *Acacia decurrens* plantation on the acidic highlands of Awi zone, Ethiopia, and its socio-economic benefits. *Cogent Food & Agriculture* 7(1). <https://doi.org/10.1080/23311932.2021.1917150>
- Christiansen L. 2020. 3 Best Practices for Supply Chain Management in the Food Industry. <https://altametrics.com/food-supply-chain/supply-chain-management-in-food-industry.html>. [2022 Mar 15].
- Christiansen L. 2021. A Guide to the Food Supply Chain. <https://altametrics.com/food-supply-chain.html>. [2022 Mar 15].
- Deep A, Singh SP, Kachroo J, Dwivedi MC, Bhat A, Kumar N, Kumar S, Sharma S. 2021. An economic analysis of marketing efficiency and constraints for cultivation of major pulses in Samba district of Jammu and Kashmir. *Journal of Food Legumes* 34(2):105–111.
- Donthu N, Kumar S, Mukherjee D, Pandey N, Lim WM. 2021. How to conduct a bibliometric analysis: An overview and guidelines. *Journal of Business Research* 133 March:285–296. <https://doi.org/10.1016/j.jbusres.2021.04.070>
- van Driel H. 2003. The role of middlemen in the international coffee trade since 1870: The Dutch case. *Bus Hist.* 45(2):77–101. <https://doi.org/10.1080/713999313>
- van Eck NJ, Waltman L. 2021. *VOSviewer Manual*. Universiteit Leiden.
- Mac Fadden I, Santana M, Vázquez-Cano E, López-Meneses E. 2021. A science mapping analysis of 'marginality, stigmatization and social cohesion' in WoS (1963–2019). *Quality & Quantity* 55(1):275–293. <https://doi.org/10.1007/s11135-020-01004-7>
- Gebre GG, Rik E, Kijne A. 2020. Analysis of banana value chain in Ethiopia: Approaches to sustainable value chain development. *Cogent Food & Agriculture* 6(1). <https://doi.org/10.1080/23311932.2020.1742516>
- Jahroh S, Meilala JS. 2021. Impacts of aggregator business on farmers' income. *Jurnal Manajemen & Agribisnis* 18(2):168–176. <https://doi.org/10.17358/jma.18.2.168>
- Kaygisiz F, Akdağ F. 2021. The factors affecting the marketing channel selection in sheep farming: A Turkish case study. *New Medit* 20(4):73–82. <https://doi.org/10.30682/nm2104f>
- Koshy NS, Jagadeesh K, Govindan S, Sami N. 2021. Middlemen versus middlemen in agri-food supply chains in Bengaluru, India: Big data takes a byte. *Geoforum*. 127 November:293–302. <https://doi.org/10.1016/j.geoforum.2021.11.013>
- Kyomugisha H, Mugisha J, Sebatta C. 2017. Potential determinants of profits and market efficiency of potato market chains in Uganda. *Journal of Agribusiness in Developing and Emerging Economies* 7(1):52–68. <https://doi.org/10.1108/JADEE-06-2015-0031>
- Lyon F. 2000. Trust, networks and norms: The creation of social capital in agricultural economies in Ghana. *World Development* 28(4):663–681. [https://doi.org/10.1016/S0305-750X\(99\)00146-1](https://doi.org/10.1016/S0305-750X(99)00146-1)
- Mariyono J, Waskito J, Kuntariningsih A, Gunistiyo G, Sumarno S. 2020. Distribution channels of vegetable industry in Indonesia: impact on business performance. *International Journal of Productivity and Performance Management* 69(5):963–987. <https://doi.org/10.1108/IJPPM-11-2018-0382>
- Marsden T, Wrigley N. 1995. Regulation, Retailing, and Consumption. *European Spatial and Environmental Planning* 27(12):1899–1912. [doi:10.1068/a271899](https://doi.org/10.1068/a271899)
- Mustafiz S, Nakayasu A, Itabashi M. 2021. Marketing of vegetable seeds: practice and behavioral inclinations of vegetable seed sellers and farmers in selected areas of Bangladesh. *Agriculture* 11(4):364. <https://doi.org/10.3390/agriculture11040364>
- Mwembe AM, Owuor G, Langat J, Mshenga P. 2021. Factors affecting market outlet choice of agroforestry based mango producers in Kwale and Kilifi counties, Kenya: The application of the Multivariate Probit model. *Cogent Food & Agriculture* 7(1). <https://doi.org/10.1080/23311932.2021.1936367>

- Nchimbi SA, Kisangiri M, Dida MA, Barakabitze AA. 2022. Design a services architecture for mobile-based agro-goods transport and commerce system. *Mobile Information Systems* 2022:1–11. <https://doi.org/10.1155/2022/6041197>
- Ngeleza GK, Robinson EJZ. 2013. Cartels and Rent Sharing at the Farmer–Trader Interface: Evidence from Ghana’s Tomato Sector. *Journal of Agricultural & Food Industrial Organization* 11(1):15–30. <https://doi.org/10.1515/jafio-2012-0011>
- Oguoma ON, Nkwocha VI, Ibeawuchi II. 2010. Implications of middlemen in the supply chain of agricultural products. *Journal of Agriculture and Social Research* 10(2):77–83.
- Paul UK, Das G, Das M, Mathur T. 2020. Small growers’ direct participation in the market and its impact on farm income. *Journal of Agribusiness in Developing and Emerging* 11(3):241–254. <https://doi.org/10.1108/JADEE-05-2019-0067>
- Piabuo SM, Yakan HB, Puatwoe JT, Nonzienwo VY, Mamboh TR. 2020. Effect of rural farmers’ access to information on price and profits in Cameroon. *Cogent Food Agric.* 6(1). <https://doi.org/10.1080/23311932.2020.1799530>
- Poulton C, Dorward A, Kydd J. 1998. The revival of smallholder cash crops in Africa: Public and private roles in the provision of finance. *J Int Dev.* 10(1):85–103. [https://doi.org/10.1002/\(SICI\)1099-1328\(199801\)10:1<85::AID-JID502>3.0.CO;2-V](https://doi.org/10.1002/(SICI)1099-1328(199801)10:1<85::AID-JID502>3.0.CO;2-V)
- Robinson AL. 2016. Internal Borders: Ethnic-Based Market Segmentation in Malawi. *World Dev.* 87:371–384. <https://doi.org/10.1016/j.worlddev.2016.07.006>
- Suárez Puello RA, Baquero-Ruiz AF. 2012. A foresight approach to reshape bogota’s food and security master plan. *Eur Foresight Platf Final Event - Forw Look Act Gov Gd Challenges* 233: 4.
- Sunyigono AK, Suprapti I, Arifiyanti N. 2021. Inter-market variability of smallholder beef cattle farming in east java indonesia. *Agraris* 7(2):176–190. <https://doi.org/10.18196/agraris.v7i2.7621>
- Tapasvi SK. 2009. Uttarakhand state cooperative federation: can it help the horticulture farmers? *Vision: The Journal of Business Perspective* 13(2):63–68. <https://doi.org/10.1177/097226290901300207>
- Upe JA, Aswan A. 2021. The choice of a marketing channel to benefit corn producer’s welfare in Indonesia. *Innovative Marketing* 17(2):45–57. [https://doi.org/10.21511/im.17\(2\).2021.05](https://doi.org/10.21511/im.17(2).2021.05)
- Weinberger K, Genova C, Acedo A. 2008. Quantifying post-harvest loss in vegetables along the supply chain in Vietnam, Cambodia and Laos. *International Journal of Postharvest Technology and Innovation* 1(3):288–297. <https://doi.org/10.1504/IJPTI.2008.021463>
- Windayanti W. 2018. Short Food Supply Chain (SFSCs) Sebagai Solusi Alternatif Rantai Pasok Produk Organik. *Univ Gadjah Mada.* <https://supply-chain.tp.ugm.ac.id/2018/11/20/short-food-supply-chain-sfscs-sebagai-solusi-alternatif-rantai-pasok-produk-organik/>. [2022 Mar 16].
- Worldometer. 2022. Population by Country (2022). <https://www.worldometers.info/world-population/population-by-country/>.
- Zapata SD, Isengildina O, Carpio CE, Lamie D. 2016. Does E-Commerce Help Farmers’ Markets? Measuring the Impact of MarketMaker. <https://www.researchgate.net/publication/314495285>