E-retailing study: a bibliometric analysis and systematic literature review

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ABSTRACT

Along with the increasing popularity of online shopping in Indonesia, the E-retailing business has increased in recent years in Indonesia. This research aims to analyze the trends and developments of e-retailing in Indonesia and globally. This research is a type of literature study research with a qualitative approach. The analysis process is divided into several stages: data set preparation, import, cleaning, and visualization. The data set of scientific articles is taken from the publication database of the Emerald publisher with the keyword e-retailing, which was published in the range of 2018-2023. The type of data is English-language journal articles that are open access and restricted access. The analysis technique used was bibliometric analysis and systematic literature review with multi-dimensional scaling method with VosViewer software tool with co-occurrence analysis type, all keywords, and binary counting method by determining the occurrence of keywords at least 7 times. The results showed seven main variables related to e-retailing: flow experience, chatbot, usefulness, artificial intelligence, online shopping, customer convenience, and customer satisfaction. It shows that flow experience, chatbot, usefulness, artificial intelligence, customer convenience, and customer satisfaction are important factors influencing the success of e-retailing. This research also shows that e-retailing is still new and needs to be continuously developed. It can be seen from the low density of research related to this topic.

Keywords: E-retailing; bibliometric; systematic literature review

1. INTRODUCTION

E-retailing is a form of e-commerce that involves selling products or services over the Internet to end users [1]. E-retailing can be done through various platforms, such as websites, mobile applications, and social media [2]. E-retailing allows consumers to quickly and conveniently buy products or services online without going to a physical store [3].

The fundamental difference between e-retailing and e-commerce is the object of the transaction. E-retailing only covers business-to-consumer (B2C) transactions. In contrast, e-commerce encompasses all types of business-to-consumer (B2C), business-to-business (B2B), and consumer-to-consumer (C2C) transactions [4], [5].

Figure 1 shows Indonesians' weekly online shopping activity in January 2023, and several exciting phenomena have occurred. First, it shows that online shopping is increasingly popular in Indonesia, with 62.6% of Indonesians purchasing products through online services. It reflects a global trend where online shopping is increasingly essential to consumers' daily lives.

Figure 1. Weekly online shopping activities Source: we are social (2023)

Then, a significant increase occurred in buying groceries through online stores, with 38.1% of respondents engaging in this activity. On the other hand, Indonesians are increasingly open to online second-hand purchases, which can be attributed to the desire to save money and utilize second-hand items at more affordable prices.

It is also noticeable that activity using the pay later method has also increased, suggesting that Indonesians are becoming more accustomed to impulse or quick purchases online. Implicitly, this data also has implications for the retail industry in Indonesia. Retail businesses may need to adjust their business models to accommodate the growing trend of online shopping. It may also change how people shop, with more consumers opting for the convenience and practicality of online shopping [6]–[8].

The phenomenon reflects changes in consumer behavior and provides opportunities and challenges for businesses in the Indonesian online market. Therefore, to get a comprehensive picture of the development of e-retailing in Indonesia, it is necessary to conduct a more in-depth examination of e-retailing trends and developments in Indonesia and globally and identify opportunities and challenges for businesses in the online marketplace. This research offers novelty, especially in enriching the literature in the field of e-retailing and what factors can affect this industry, which in previous studies discussed the e-commerce industry as a whole. The use of references from 2018-2023 will also provide refreshment related to knowledge in the field of e-retailing.

2. METHODS

The research method uses two stages of analysis, namely bibliometric analysis and literature review studies using multi-dimensional scaling techniques with VosViewer software tools. Data references are taken from Scopus-indexed international publication data from the Emerald database related to e-retailing. Figure 2 explains the research process, which has several stages, from preparing the data set, importing data, cleaning data, and data visualization. The data set is a scientific article that has been published on the emerald database accessed on September 2, 2023, with the keyword "e-retailing" with publication year "2018-2023" document type "article," source type "journal," article language "English" and type of access "all." The inclusion of the journal search criteria resulted in 551 articles. After the data set is collected, the data is imported directly into the VosViewer application. Visualization of bibliographic analysis using VosViewer with co-occurrence analysis type, all keywords, and binary counting method by determining the occurrence of keywords at least 7 times.

Furthermore, data scanning is carried out on too general keywords to maximize the visualization results. The visualization process is carried out if the data has been appropriately screened. Visualization

of bibliometric analysis with VOSviewer is carried out to see the relationship of e-retailing topics with other related topics.
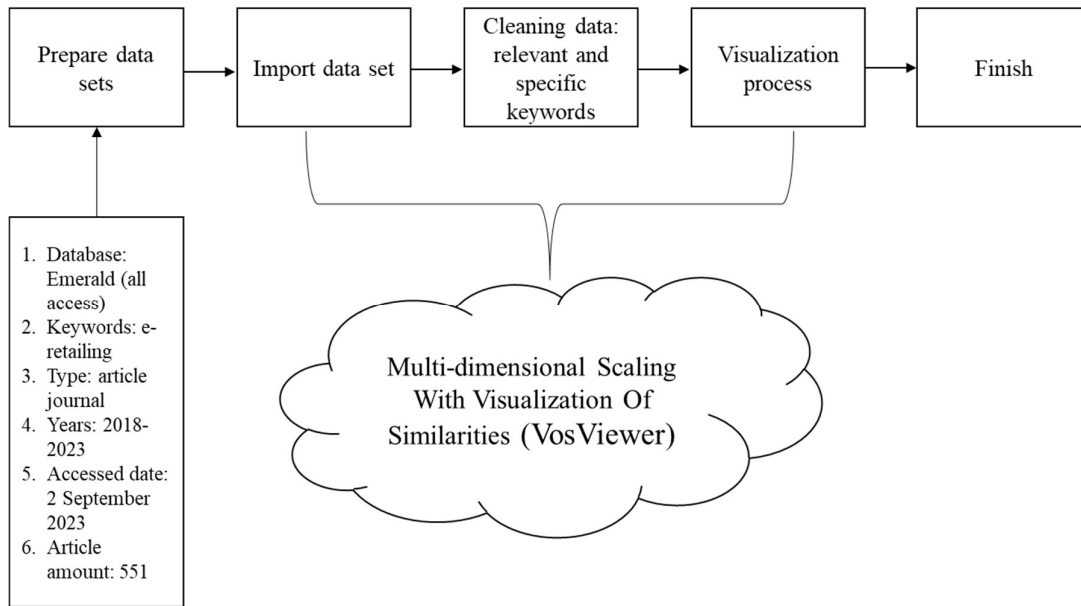

Figure 2. Research framework Source: [9], [10]

3.   RESULT AND DISCUSSION

Before data visualization, the first step is to import the data set into VosViewer. Second, screening relevant and specific keywords related to e-retailing so that general keywords will be eliminated where the final screening results in 116 keywords from the previous number of 287 keywords. Next, perform bibliometric analysis to display the network visualization aspect. Figure 3 shows 5 clusters where cluster 1 is red, cluster 2 is green, cluster 3 is blue, cluster 4 is yellow, and cluster 5 is purple with 2244 links, indicating a relationship between one cluster and another.
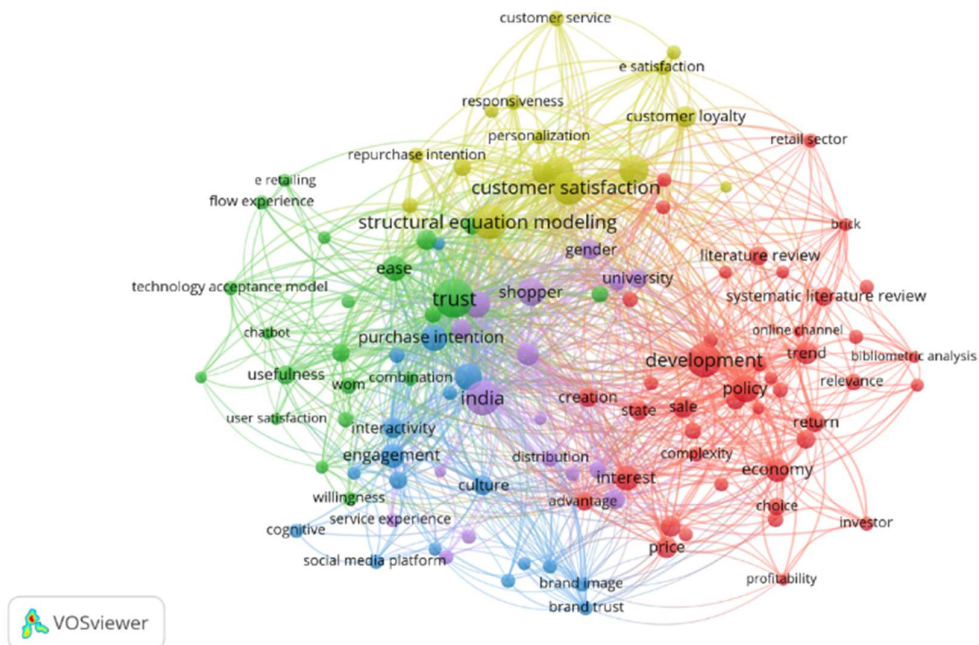

Figure 3. Network visualization - complete cluster Source: VosViewer output (2023)

Using the keyword co-occurrence clustering, we can get 5 large clusters. Table 1 shows that the 5 clusters have details of Cluster 1 consisting of (43) items, cluster 2 has (21) items, cluster 3 has (18) items, cluster 4 has (17) items, and cluster 5 has (17) items.

Table 1 Clustering

Cluster	Keywords	Items
1	Advantage, behavioral attention, bibliometric analysis, brick, business model, choice, client, collaboration, competitive advantage, complexity, connection, content analysis, creation, development, economy, fashion, government, innovation, interest, investor, literature review, online channel, online customer, online store, policy, price, profitability, qualitative study, relevance, retail sector, retail store, sale, service failure, state, supply chain, sustainability, systematic literature review, transaction, transition, trend, variety.	43
2	Artificial intelligence, boundary condition, chatbot, combination, commitment, consumer intention, convenience, e-retailing, ease, enjoyment, flow experience, guidance, interplay, relationship quality, technology acceptance model, trust, usefulness, user satisfaction, utilitarian, willingness, WOM	21
3	Brand image, brand loyalty, brand trust, cognitive, culture, customer engagement, engagement, entertainment, e-wom, Facebook, generalizability, interactivity, moderating role, new insight, physical store, purchase intention, smartphone, and social media platform.	18
4	Customer expectation, customer loyalty, customer satisfaction, customer service, e-satisfaction, e-service quality, interrelationship, loyalty, multi-group analysis, personalization, privacy, repurchase intention, responsiveness, security, structural equation modeling, and website quality.	17
5	Digital technology, distribution, e-commerce website, e-retailer, gender, India, online retailer, online retailing, online review, online shopping, product category, service experience, shopper, social implication, university, utility, valuable insight.	17

Source: VosViewer output (2023)

Figure 4 shows an overview of cluster 2, which is specific to the e-retailing keyword. It can be seen that e-retailing is directly related to 7 keywords: flow experience, chatbot, usefulness, artificial intelligence, customer convenience, and customer satisfaction.
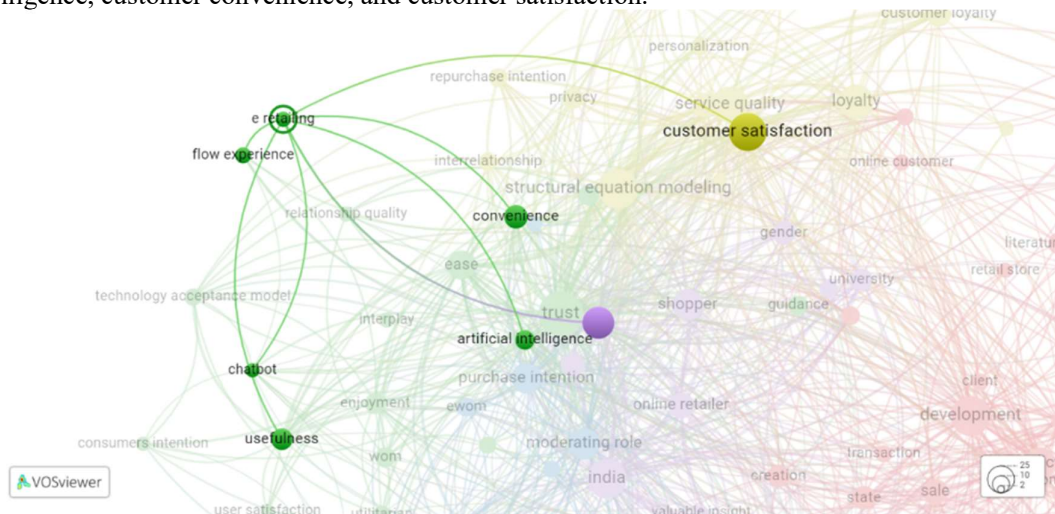

Figure 4. E-retailing cluster network visualization Source: VosViewer output (2023)

Table 2 emphasizes that the keyword chatbot has the most significant relevance value to e-retailing and is followed by other variables, namely usefulness, flow experience, artificial intelligence, customer satisfaction, convenience, and online shopping. The relatively small occurrence value on the keywords

chatbot, flow experience, artificial intelligence, and usefulness also shows that these variables are still limited in the e-retailing industry.

Table 2. Occurance & Relevance Score

No	Keywords	Occurrences	Relevance score
1	Chatbot	7	1.269
2	Usefulness	16	1.006
3	Flow experience	9	1.002
4	Artificial intelligence	13	0.631
5	Customer satisfaction	49	0.477
6	Convenience	19	0.399
7	Online shopping	35	0.341

Source: VosViewer output (2023)

The relationship between these 7 keywords has been reinforced by previous research. Chatbots in e-commerce can increase the number of leads compared to traditional strategies that use forms. Thus, chatbots can improve the effectiveness of e-commerce business processes by increasing the number of leads generated. In addition, chatbots can also help collect information from customers and improve interactions with customers, which can increase customer satisfaction and strengthen business relationships [11].

Chatbots can also improve the effectiveness of e-retailing business processes in several ways. First, chatbots can improve operational efficiency by automating tasks previously performed by humans, such as providing product information and handling customer inquiries. Secondly, chatbots can improve user experience by providing quick, accurate responses and relevant advice and recommendations. It can increase customer satisfaction and strengthen brand loyalty. Third, chatbots can help reduce operational costs by reducing the need for human labor and improving time efficiency. However, chatbots must be well-designed and properly implemented to achieve these benefits, considering trust, perceived risk, and user experience flow [12], [13].

The usability of the chatbot has a positive influence on the extrinsic values of the customer experience. In contrast, the chatbot's responsiveness positively impacts the intrinsic values of the customer experience. In addition, this study shows that chatbot adoption can enhance the intrinsic and extrinsic values of the online customer experience, facilitating customer satisfaction in an online environment. This study also found that customer personality can moderate the effect of chatbot adoption on online customer experience and customer satisfaction [14].

Besides chatbots, AI has great potential to transform e-commerce business processes in various ways. One significant aspect is marketing, where AI can help in more profound market research and more accurate customer segmentation. It allows businesses to target customers with more suitable products and design more appropriate marketing strategies. Also, regarding dynamic pricing, e-commerce businesses can use artificial intelligence to adjust product prices based on changing market conditions, such as demand and supply. It allows them to remain competitive effectively and optimally [15].

AI is also essential in analyzing e-commerce business processes and providing recommendations to improve efficiency and productivity. It helps businesses to develop their operations better continuously. Aside from the operational aspect, AI also supports customer service using responsive chatbots and virtual assistants. With this, customer experience can be enhanced by providing better and more efficient customer support. Finally, in terms of transactions, AI can process e-commerce transactions more quickly and accurately. It not only improves efficiency but also increases the overall speed of the business [15], [16]. Thus, using AI in e-commerce businesses has excellent potential to improve efficiency, productivity, and customer experience significantly. It is essential in enabling businesses to compete better in an increasingly competitive and dynamic market environment.

Perceptions about the usefulness of a product or service can influence user behavior in online shopping. This is because users will tend to use products or services considered helpful. In business e-retailing, perceived usefulness can influence users' purchasing decisions and increase customer loyalty [17]. Increasing perceived usefulness can help increase consumer trust in e-retail websites and, in turn, grow the e-retail business. It can also help increase consumer loyalty and strengthen the e-retail brand

[18]. For example, suppose an e-commerce platform offers products that users find helpful, such as products of high quality or lower prices compared to other platforms. In that case, users will shop on that platform [17]. Therefore, e-retailing businesses must consider the perceived usefulness factor in developing their marketing strategies.

Furthermore, bibliometric analysis on the aspect of overlay visualization is carried out to see the novelty of research on the topic of e-retailing. Figure 5, it can be seen that research related to topics such as chatbots, artificial intelligence, and e-retailing only began to exist in 2021, so it can be concluded that this topic is still new and needs to be continuously developed.
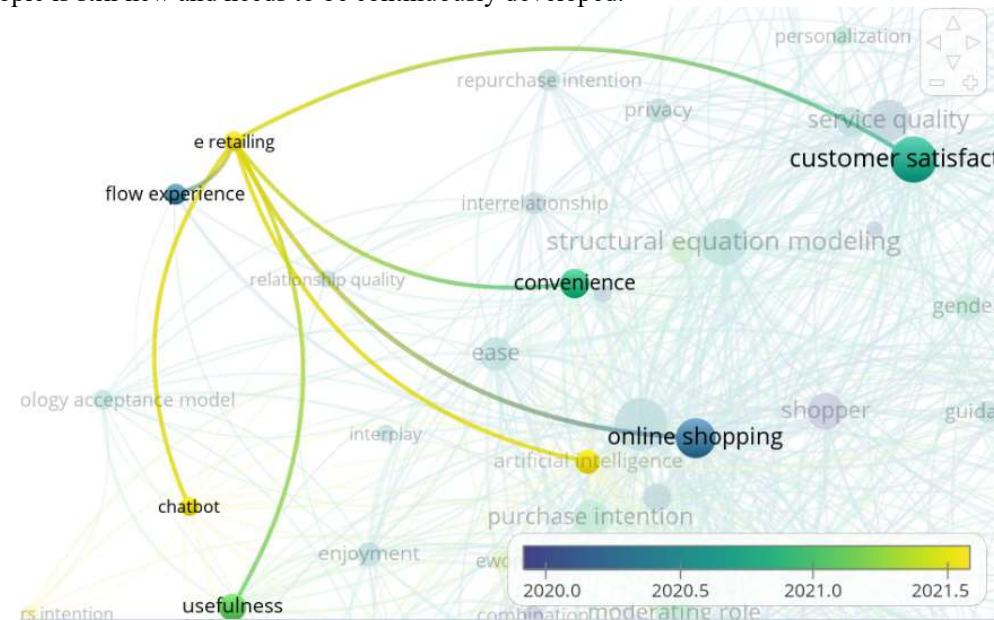

Figure 5. Overlay visualization Source: VosViewer output (2023)

Third, bibliometric analysis on density visualization is carried out to see the density or quantity of research related to e-retailing. Figure 6, it can be seen that the density of e-retailing topics is still very low, indicated by the vague e-retailing keywords, so it can be concluded that this research topic needs to be continued and developed by future researchers.
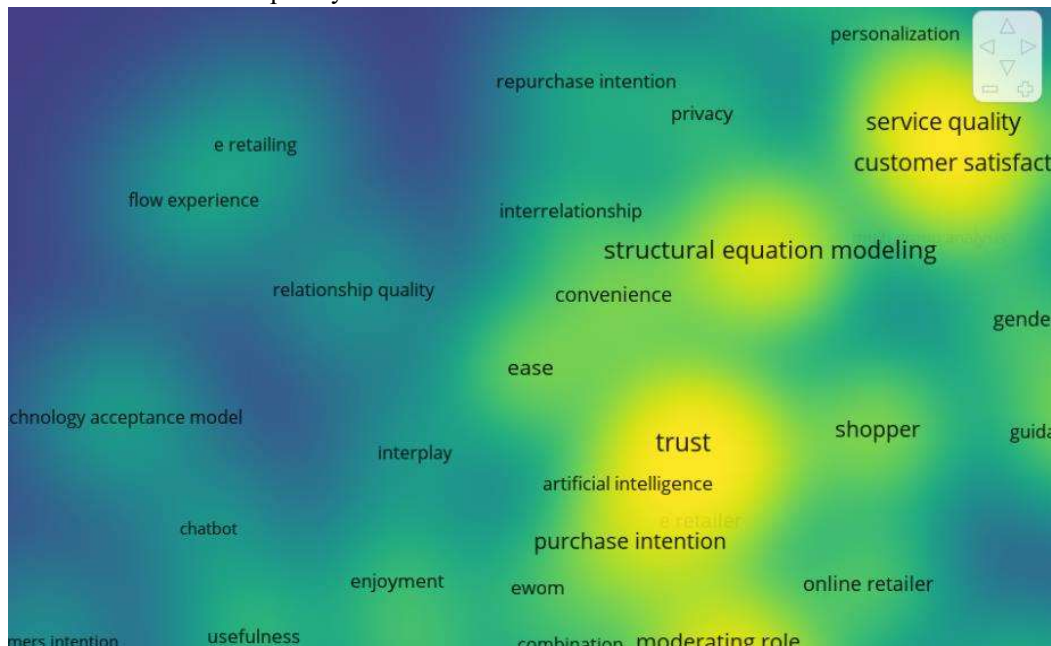

Figure 6. Density visualization Source: VOSviewer output (2023)

4. CONCLUSION

E-retailing in Indonesia has experienced rapid development in recent years. It can be seen from the increasing popularity of online shopping in Indonesia, with 62.6% of Indonesians purchasing products on online services in January 2023. In addition, there was a significant increase in second-hand purchases through online stores, indicating that people are increasingly open to purchasing second-hand goods online. It signals that Indonesian consumers are increasingly familiar with impulse purchases online. The results show seven main variables related to e-retailing: flow experience, chatbot, usefulness, artificial intelligence, customer convenience, and customer satisfaction. The research also notes the role of chatbots and artificial intelligence (AI) technologies in e-retailing. Chatbots have proven to help improve customer service and interactions with consumers. In addition, AI has great potential to transform various aspects of e-commerce, including marketing, dynamic pricing, business process analysis, customer service, and transaction processes. This research also shows that e-retailing is still new and needs to be continuously developed. It can be seen from the low density of research related to this topic. Recommendations for further research that can be done are research on the effect of chatbots on customer satisfaction and purchase intentions in e-retailing, factors that influence the customer experience in e-retailing, and effective e-retailing strategies to increase customer satisfaction and purchase intentions. These studies are expected to contribute more to our understanding of e-retailing in Indonesia.

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