

# Mapping the Global Landscape of Malaysia's Microbusinesses and Mobile Payments

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**Abstract:** Microenterprises constitute over ninety percent of the overall total enterprises in Malaysia. Descriptive metadata and scientometric analysis were utilised to examine the research and development studies of microbusinesses and mobile payment systems in Malaysia. Literature patterns and research development trends pertaining to mobile payments and microbusinesses were evaluated by considering a compilation of more than 8,414 relevant articles. Hence, the objective of this study is to identify current trends in mobile payment and microbusiness research and publication in Malaysia, as well as trend research subjects that have been highlighted across the literature over time. Utilising the Web of Science database, publication trends, a list of authors, journals and affiliations, actively participating countries, top keywords, research clusters, and the top references with the most pronounced citation bursts were identified, compiled, and generated for the study. In total, 118 countries or states were identified as having published pertinent information regarding microbusinesses and mobile payments in Malaysia. Additionally, this study found a gradual increase in the number of publications, with England producing the most, followed by the United States and China. In Malaysia, a collective of 6,913 authors were recognised for their contributions to the fields of microbusiness in Malaysia and mobile payment studies. This study examines the mobile payment trend among Malaysia's microbusinesses in the cluster, including those in the business cycle, corporate social responsibility, and innovation. It is observed that microbusiness publications in Malaysia place greater emphasis on empirical investigation and mobile services in relation to mobile payment.

**Keywords:** Mobile payments, microbusinesses, micro enterprises, Malaysia

## Introduction

Zhang et al. (2023) argue that small and medium-sized enterprises (SMEs) must adopt the prevailing mobile payment trends. Similar to this, a thorough study by Eze et al. (2021) suggest that the adoption of mobile payment systems by microbusinesses is essential for promoting contactless or digital economies. In addition, there are numerous recent and well-known analyses of mobile payment intention and adoption (Yang et al., 2023). In a broad sense, mobile payments encompass any type of financial transaction conducted via mobile devices (Migliore et al., 2022). Consumers typically prefer mobile payments over other methods (Aji & Adawiyah, 2022) since they are often associated with convenience and widespread acceptance (Jung et al., 2020). Mobile payment transactions facilitate

contactless or zero-cash transactions, which are in accordance with the national policy of our country and prevailing global standards (Aldaas, 2021). Despite this, empirical studies and evaluations pertaining to microbusinesses and microenterprises are scarce (Al-shami et al., 2019), indicating a significant research gap given that microbusinesses comprise over seventy percent of SMEs in Malaysia (SMECorp, 2022) (Figure 1).

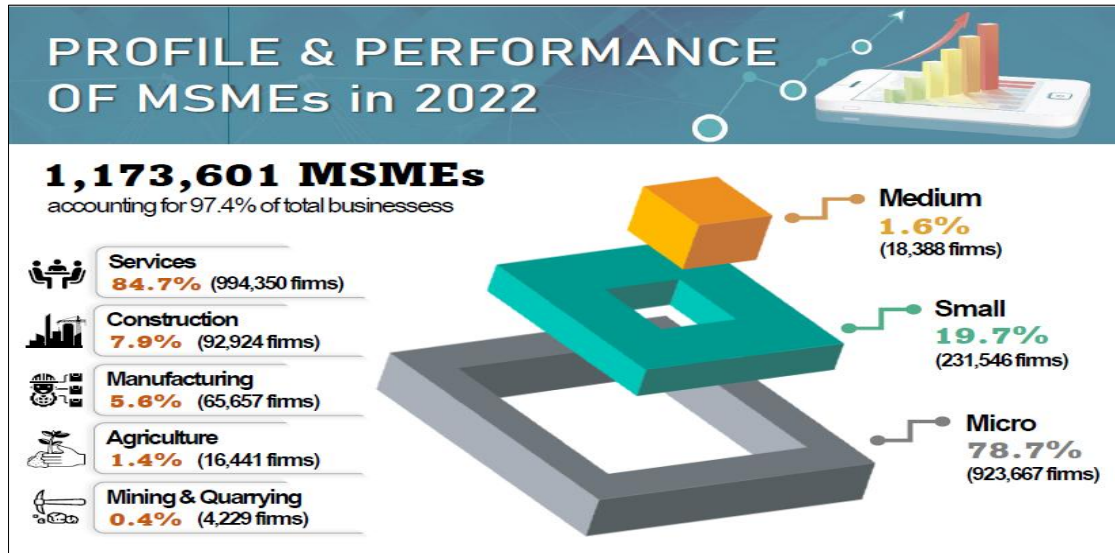


Fig. 1 Micro small medium enterprises in Malaysia (SMECorp, 2022)

## Methods

This study utilized the Web of Science (WOS) database to selectively identify publications related to mobile payments and microbusinesses in Malaysia. The process was conducted in three distinct phases: Phase I – Identification of the topic and scope, Phase II – Screening, and Phase III – Finalization. Data retrieval was conducted on December 1, 2023 (<https://www-webofscience-com.uitm.idm.oclc.org/wos/woscc/analyze-results/b9abaa29-4079-4378-b667-1f089496e237-c89c1686>). Only articles written in English were included. CiteSpace, a tool for scientometric analysis, and Microsoft Excel 365 were used to analyze the descriptive dataset for this study. The literature search methodology is succinctly illustrated in the flowchart presented in Figure 2. Terms such as centrality, burst detection, and sigma score are frequently used in CiteSpace. "Centrality" pertains to understanding the interconnections among various clusters. Sigma score and burst detection refer to the frequency surge of specific fields.

## Results

### *Publication trends and regional distribution*

The study identified a total of 2,378 published articles related to mobile payment and microbusiness research in Malaysia within the Web of Science (WoS) database, covering the period from 1999 to 2023 (Figure 2). The analysis revealed a strong alignment with Sustainable Development Goal (SDG) 9 for Industry, Innovation, and Infrastructure, followed by SDG 1 for No Poverty (Figure 3), with less emphasis on Sustainable Cities and Communities (SDG 11). Additionally, 118 regional or state actors involved in this field were identified (Figure 4). The Web of Science categories identified Businesses as having the highest total number of publications, whereas Multidisciplinary Sciences represent fewer publications (Figure 5). Over the decades, a total of 6,913 authors contributed to mobile

payment and microbusiness research, 296 different journals were published, and a total of 2,736 affiliations were recorded. Table 1 lists the contributions of each.

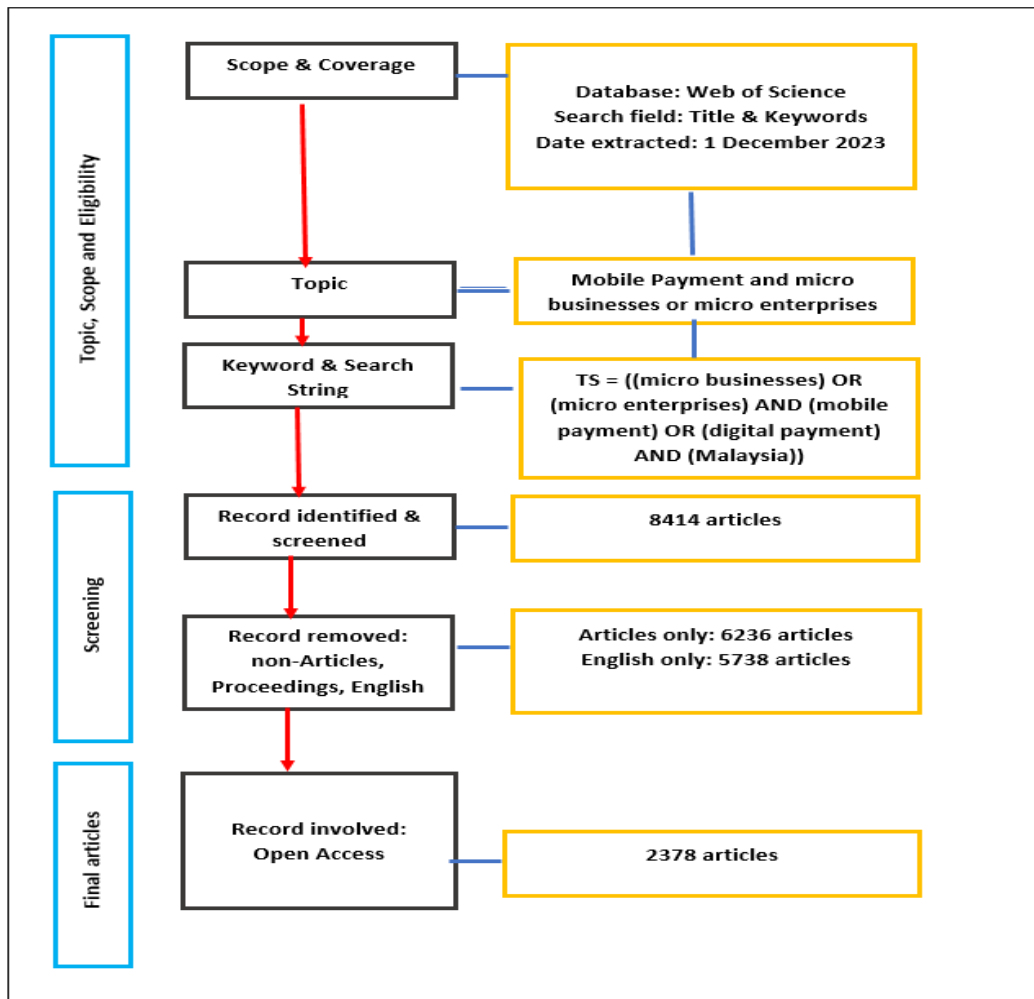
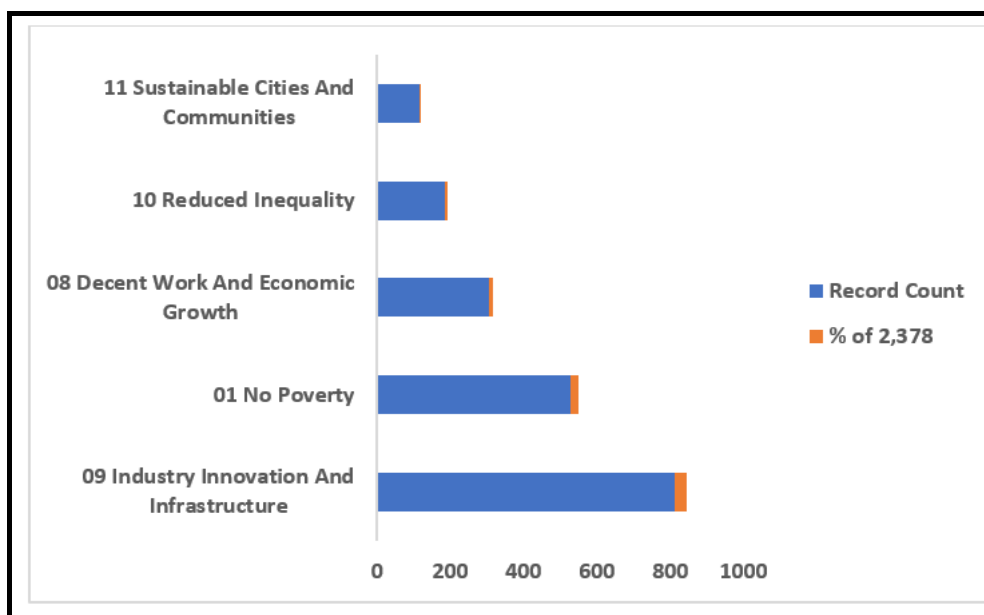
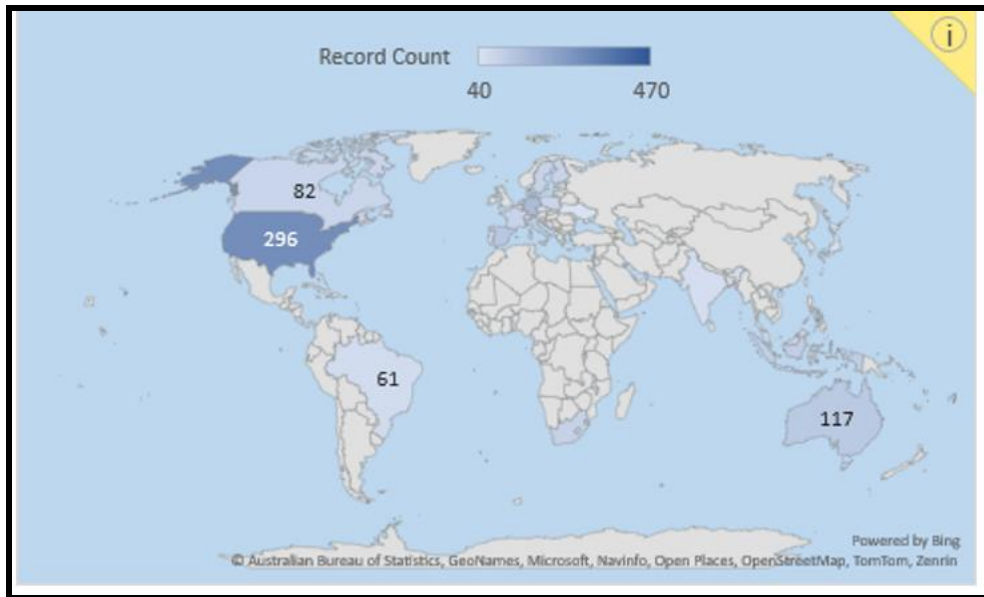


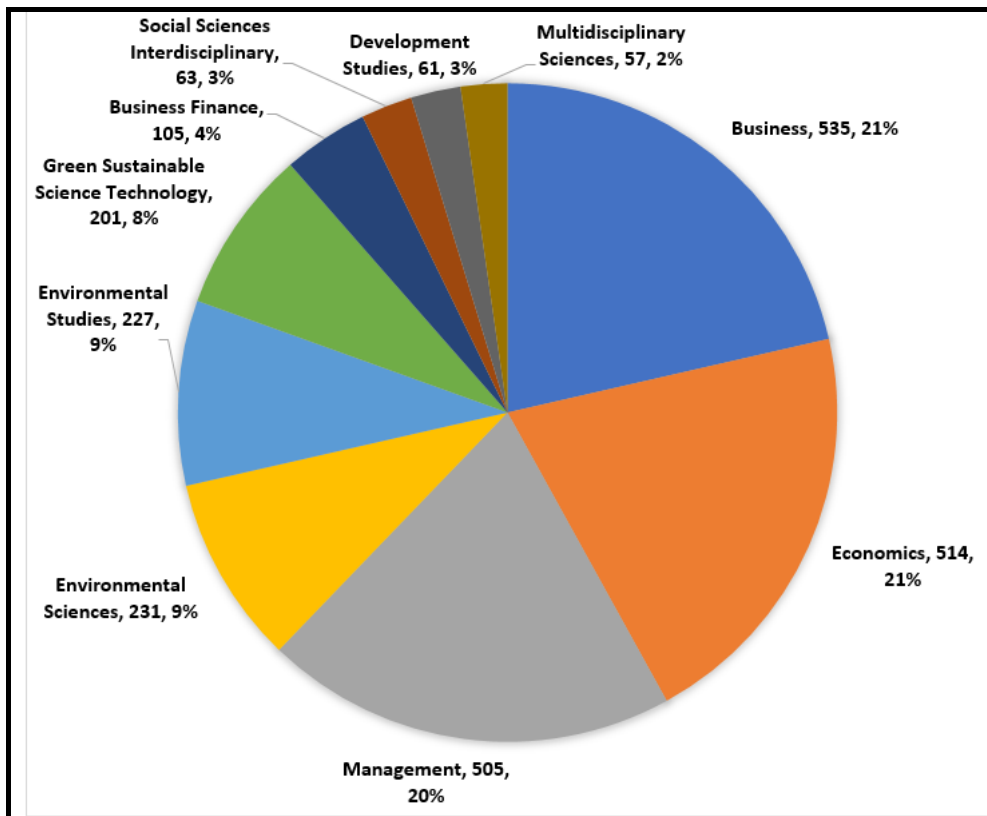
Fig. 2 The methodological framework of the present study on mobile payments and Malaysia’s microbusinesses.



**Fig. 3** The Sustainable Development Goals related to mobile payments and Malaysia’s microbusinesses studies.



**Fig. 4** The regional and state distribution of mobile payments and Malaysia’s microbusinesses. Dark blue represents the highest total number of publications, whereas lighter shades represent fewer publications.



**Fig. 5** Web of Science categories on mobile payments and Malaysia’s microbusinesses

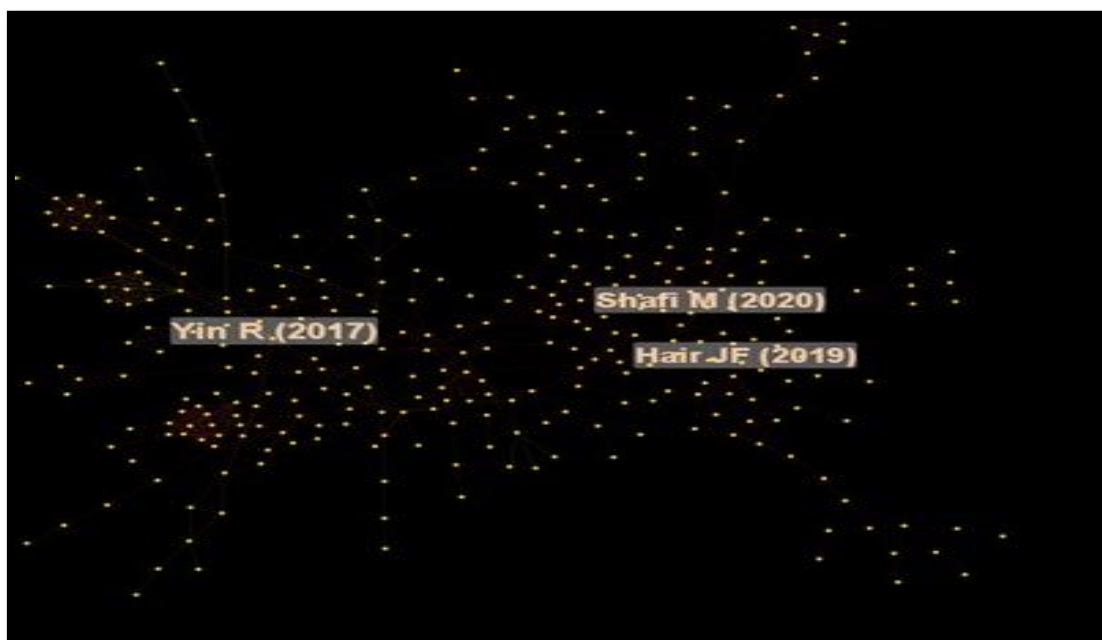
**Table 1.** Top ten contributions (i.e., author, journal and affiliation) of mobile payment and Malaysia’s microbusinesses research, based on the Web of Science.

Author		Journal		Affiliation	
Authors	Counts	Journals	Counts	Affiliations	Counts
Alonso AD	10	Elsevier	395	University of London	63
Al Mamun A	9	MDPI	262	Ministry of Education Science of Ukraine	33
Dosi G	7	Springer Nature	209	National Bureau of Economic Research	32
Fazal SA	7	Taylor & Francis	203	Vrije Universiteit Amsterdam	31
Aarikka-stenroos L	5	Emerald Group Publishing	191	University of Manchester	28
Hagsten E	5	Wiley	163	Newcastle University UK	27
Liu YP	5	Sage	139	University College London	23
Roventini A	5	Oxford Univ Press	41	University of Leeds	23
Scarpellini S	5	Frontiers Media Sa	40	Federal Reserve System USA	20
Wang Y	5	Walter De Gruyter	23	University of Warwick	20

### Scientometric Results

*Author, cluster analysis, keywords and top references burstiness*

Figure 6 presents the author co-citation analysis for mobile payment and Malaysia’s microbusiness research, based on the Web of Science database. Yin (2017) is the most highly cited author, with the analysis including only those with centrality scores greater than or equal to 0.10. This analysis generated a total of 25 keywords with the strongest citation burst, and the most recent ones are resources and dynamic capability. A total of 10 clusters are shown in Figure 8. The most recent cluster is Cluster ID #1, Corporate Social Responsibilities #2, Innovation, whereas the top cluster is #0, Business Cycle. The top 18 references with the strongest citation bursts in mobile payment and Malaysia’s microbusiness research were identified through the CiteSpace analysis (Figure 9).



**Fig. 6** Author co-citation analysis

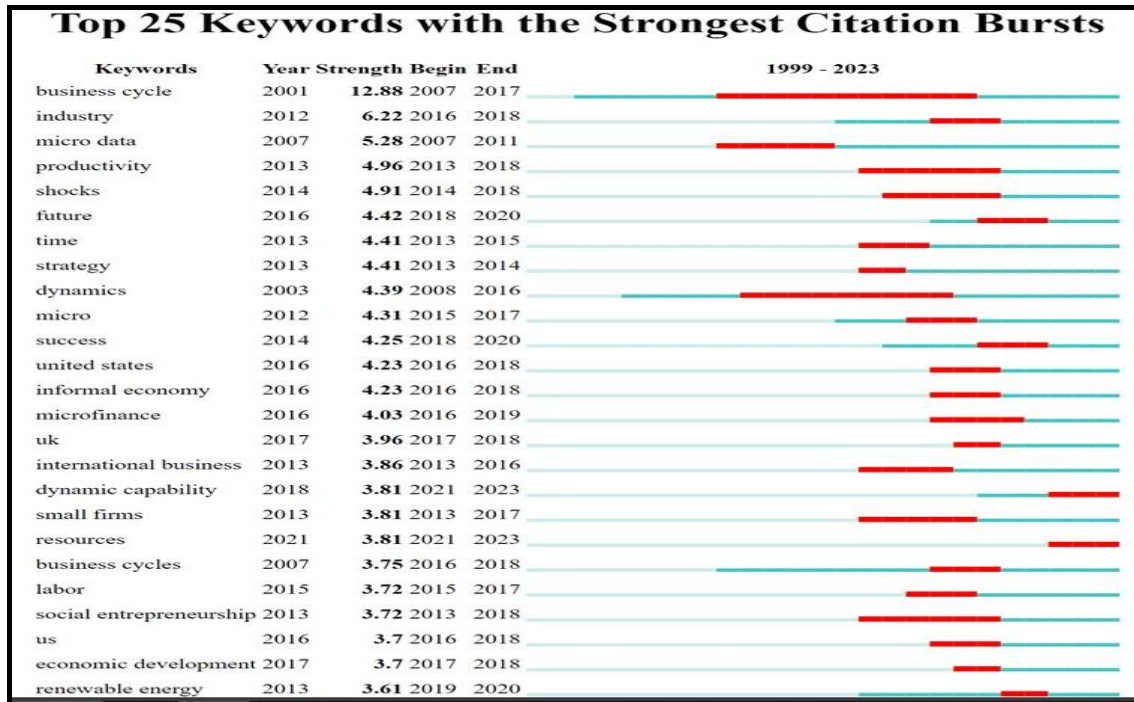


Fig. 7 Summary of identified keywords with the strongest citation burst in mobile payment and Malaysia’s microbusiness research from 1999 to 2023 generated from CiteSpace.

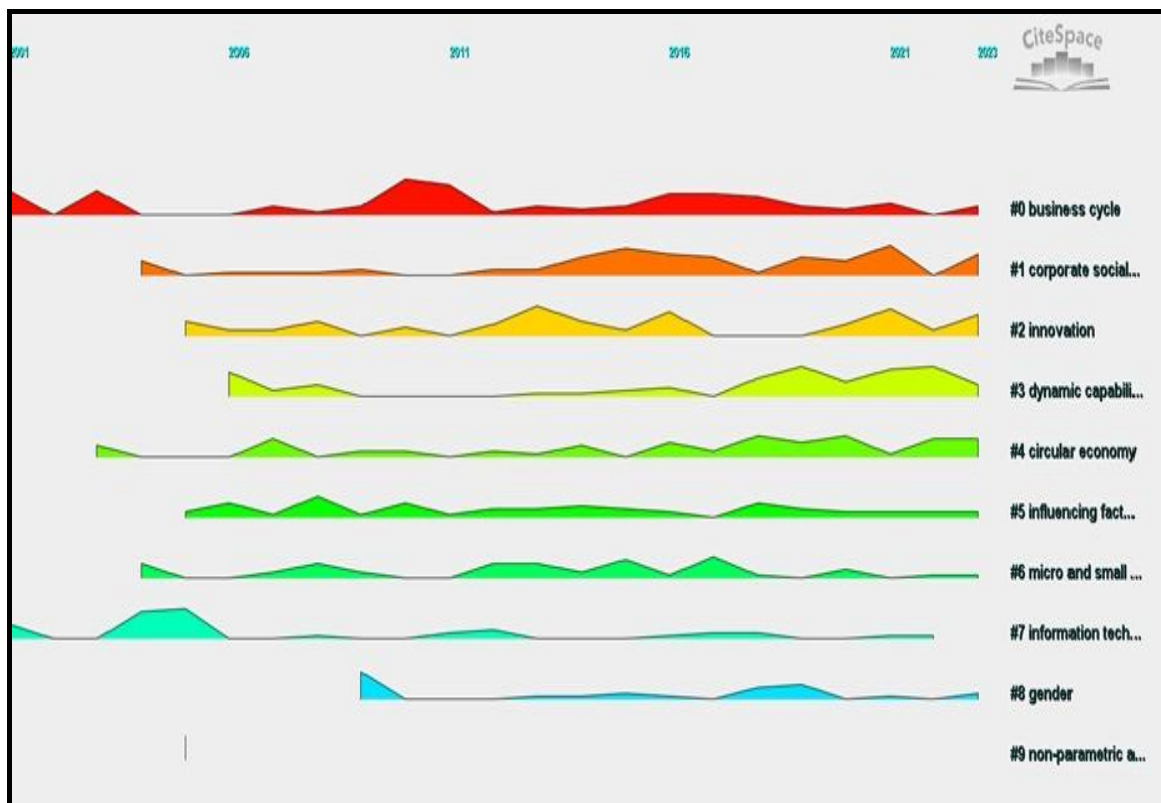
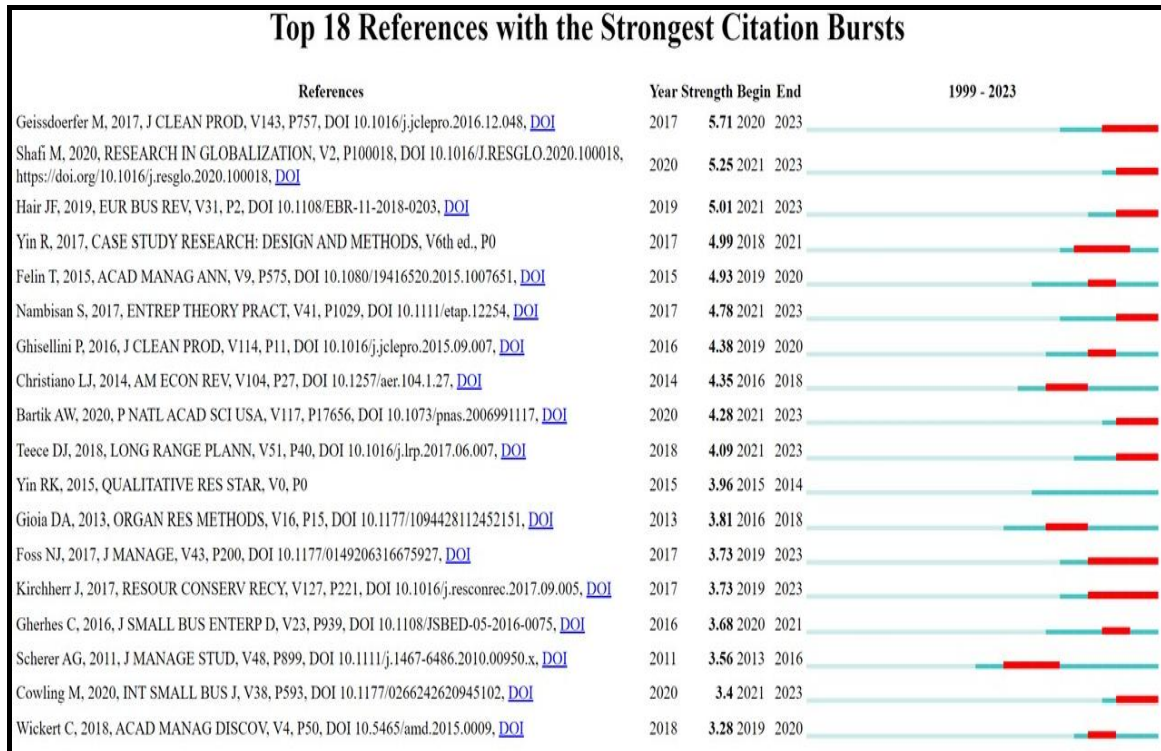


Fig. 8 Summary of identified document cluster lifetimes in mobile payment and Malaysia’s microbusiness research from 1999 to 2023 generated from CiteSpace.



**Fig. 9** Summary of top 18 references with the strongest citation bursts in mobile payment and microbusiness research from 1998 to 2023.

## Discussion

### *Mobile payments and microbusinesses: global publication trends*

Through the scientometric analysis of 2,378 publications available through the Web of Science database, significant breakthroughs in mobile payment and Malaysia's microbusiness research in the last five decades were identified. From 1999 to 2023, an average of 99 articles were published per year. The substantial number of papers and authors (2,378 and 9,975, respectively) in this field demonstrates that mobile payments and Malaysia's microbusinesses are among the most researched topics in the digital payment systems domain (Jalil, 2021). Due to the limited number of scientometric studies focused specifically on payment platforms, the discussion section on this topic is constrained. However, with increasing commercial interest and the growing availability of services via mobile payments from the perspective of Malaysia's microbusinesses (Mamun et al., 2018; Putranta et al., 2020), this trend is expected to continue. The analysis of the present study revealed a high level of interest in mobile payments, which can be attributed to their crucial role in the business cycle, corporate social responsibility, and innovation (Figure 8). Thus, mobile payment empowerment among microbusinesses is critical (Ayalu et al., 2022) in order to pursue business objectives (Omar et al., 2020). Thus, empowering microbusinesses with mobile payment capabilities is critical (Ayalu et al., 2022) for achieving business objectives (Omar et al., 2020). The identification of 118 different countries or regions contributing to this research underscores the global importance of mobile payment research among Malaysia's microbusinesses within the digital payment community. Among the journals contributing to this field, Elsevier, MDPI, and Springer Nature were the top three publishers, as shown in Table 1. Abel Duarte Alonso was among the top 10 active authors, with the University of London being the highest-affiliated institution in this study.

### *International networks of collaboration*

According to the author co-citation analysis in Figure 6, three authors stand out as the most influential in mobile payment and microbusiness research: Robert K. Yin from the School of Education at Southern New Hampshire University in the United States, Mohsin Shafi from the Institute of Health Management & Research Sciences at LUMHS in Jamshoro, Pakistan, and Joe F. Hair, Jr. from the University of South Alabama in the United States. These authors achieved a sigma score of 1.00 and centrality scores of 0.10. The data indicate that the research cluster in the author citation analysis (based on publications in WoS) cited these three authors between 22 and 27 times. Furthermore, Figures 6 and 9 show that these authors not only received the most citations but also experienced a significant surge in citations. Yin (2016) examined the application of case study methodology, Shafi (2020) investigated the impact of COVID-19 on microbusinesses and their use of mobile payment methods, and Hair (2018) discussed how micro enterprises in Pakistan have managed to navigate unprecedented challenges. The time series cluster analysis in Figure 8 revealed that "Business Cycle," "Corporate Social Responsibility," and "Innovation" are among the top three clusters relevant to mobile payment and Malaysia's microbusiness research. It is widely acknowledged that microbusinesses in Malaysia face development constraints (Mamun et al., 2018), distinguishing them from other types of enterprises (Gherhes et al., 2016), and requiring them to strive for greater sustainability (Bai et al., 2021). There is a pressing need for increased collaboration across countries, institutions, and academics, particularly focused on mobile payments and microbusinesses. Influential references (Figure 9) can serve as a foundation for future mobile payment studies (Phalatsi, 2020) and indicate that this research draws from a broad spectrum of published work, potentially due to the significant discussions surrounding mobile payments, not only from a technological standpoint (Zhang et al., 2023).

### **Conclusion**

The use of mobile payments in Malaysia is currently limited, despite still being in the early stages of growth (Qasim & Abu-Shanab, 2016). Balakrishnan et al. (2023) indicated that the number of individuals utilizing mobile payment services in Malaysia is at a reasonable level. Given the substantial number of publications and authors involved in microbusiness and mobile payment research in Malaysia, our findings suggest that numerous stakeholders and academics from various sectors have ample opportunities for collaboration. Our bibliometric analysis has revealed significant trends and developments in mobile payment research conducted by microbusinesses in Malaysia. Innovation, business cycles, and corporate support are among the most promising research topics. To better understand the implications of business strategies, further collaboration is necessary to address these challenges in future studies. Additionally, mobile payments may enhance the operational efficiency of microbusinesses, as indicated by a recent study (Amornkitvikai et al., 2022).

### **Suggestion for Future Research**

The impact of mobile payment systems on microbusinesses in Malaysia is a significant area of study, particularly in light of the rapid advancements and increasing integration of technology into the market. Further investigation into these topics could provide valuable insights into the influence of mobile payments on the growth and sustainability of microbusinesses, as well as inform the development of policies and technologies that support these efforts.

### **Co-Author Contribution**

The authors confirm that there is no conflict of interest in this article. Author 1 conceived the conceptual ideas, developed the proof outline, analysed and interpreted the data, and wrote the

sections on the Abstract, Introduction, Literature Review, Methodology, and Results. Author 2 contributed to the Literature Review and Discussion sections. Author 3 wrote the Conclusion and Suggestions for Future Research. Author 4 contributed to the final version of the article.

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