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Determinants of Digital Payment Continuance Intention: A Systematic Literature Review and Bibliometric Analysis

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ABSTRACT

Digital payment and electronic (Mobile) payment has evolved as the most adopted payment system in recent years due to changing consumer spending patterns. There are very few or limited number of studies are available on digital payment adoption and continuance intention. To overcome these limitations, this paper through bibliometric analysis examining a statistical overview of existing literatures is available in Scopus database since 2000. The present research paper reviews peer-reviewed 86 articles published in different Scopus indexed journals. We have compiled a list of most relevant publications, authors, institutions, leading research topics, and geographical research findings through this paper. A bibliometric analysis using VOSviewer and Biblioshiny was carried out to identify thematic clusters. Bibliographic coupling, co-citation analysis, and thematic analysis reveals an interesting pattern in the field of digital payment adoption and continuance intention. The findings of this thematic study exhibit a rising trend in digital payment research and scope for further research.

Keywords: *Digital Payment, Electronic Payment, Continuance Intention, Biblioshiny, Bibliometric Analysis.*

INTRODUCTION

The exponential expansion of the IT-transformed global banking sector was significantly influenced by the rise in smartphone adoption. People were motivated and inspired to accept digital payments during COVID-19, which has sped up the expansion of both the domestic and global economies. India is undergoing a digital transformation and moving towards a cashless society. Everyone participated to the creation of EPS and MPS as well as their use prior to COVID-19 (A.O. Tounekti, A.R. Martinez, and A.F.S. Gomez, 2022). Even digital payments made after COVID-19 gained traction.

Thanks to advancements in technology, payment ecosystems have gone through a transitional phase and are currently recognised as the most inventive and economical technology. Numerous more academics have conducted study in the field of electronic payment systems using a variety of models. The m-payments are turning powerful as opposed to the traditional offline method of payment channels and electronic channels like ATM, e-cheque, and e-card payments.

The existing body of research in this field still needs to be compiled and categorised. Bibliometric analysis is necessary to look into, identify, and track important authors or research works, as well as the connections between them (O. Tounekti, A. Ruiz-Martinez, A. F. S. Gomez, 2022). Bibliometric study on digital payment contributes to the field in many ways for digital payment adoption and continuance intention based research. Future research on digital payment can get a direction from the overview of number of publications and citations. It also provides a comprehensive review of publications, top country contributors, authors, and top-cited articles. The co-authorship network analysis in study will provide an idea about association of countries in terms of sharing articles. Finally, this study will help to find out the broad research areas for further research in the field of digital payment.

Nowadays, businesses are concentrating on online payment acceptance because it is user-friendly, quick, safe, and devoid of scams. In order to encourage consumers to make more digital payments, the industry provides discounts, cashback awards, and other incentives assert that consumers constantly take part in a range of activities connected to digital payments for goods and services. The adoption of digital payment technologies has been sluggish, which may be related to issues with value, usage, and security (C. Kim et al., 2010; J.M.Lee, B. Lee, J. Y. Rha, 2019).

In this paper, we divided the whole article into five subgroups. In the very beginning, we have kept introduction followed by background of the research study, whereas second subgroup consisting of review of literature, Research Methodology, and types of Bibliometric analysis. In the third subgroup, we took Descriptive analysis of the article followed by bibliometric analysis, whereas the fourth subgroup consisting of conclusion and limitation. Fifth subgroup focuses on scope for further research.

LITERATURE REVIEW

An online virtual transaction is known as a digital payment. When payments are switched from manual to automatic or from traditional to digital, customers' lives become simpler, safer, and require less time and money. Furthermore, performance expectations (PE), social influence (SI), facilitating conditions (FC), price value awareness (PVA), security, and privacy habit are some of the other elements that influence the adoption of a digital payment system.

The adoption of electronic payment/digital payment services, which prioritised the importance of perceived security factors from the perspective of the customer and their acceptance in long-term use, is credited with contributing to the growth of e-commerce (Tounekti et al., 2022).

On the other hand, the present study examined digital payment acceptance from a wide angle using the models TAM, UTAUT, TCT, SDT, ECM, TRA, TFT, HBM, and ECT. There is always a research gap in research papers because of the nature of the field investigation. Numerous other methods, including SLR, Metaanalysis, Bibliometric Analysis, Biblioshiny, Scoping Review, and Weight Analysis, are also employed in the publication of literature reviews.

The payment ecosystem, which offers customers speed, choice, and cost savings among other advantages, has significantly changed how consumers live their lives as a result of technological improvements (Abdullah and Mohammed Naved Khan, 2021).

It makes the research gap created in the field study and helps the researcher for further investigation, which is not explored. More variety methods are used to review the literature. The present paper uses both techniques, SLR and bibliometric analysis. These techniques help comprehensively to identify the critical factors.

The study focused on gathering an enhanced grip of Psychological design of different research publications in the area of digital payments (Nishak.kumar et al. 2023). The study used Scopus database for retrieval of research papers. The researcher's explored the relationship among the constructs using association rule mining and community detection algorithm.

The overall objectives of this research is to investigate the paper published in the area of digital payment between 2007 to till date. The recent study is made to address the following research questions (RQs) through this study:

1. To explore the research articles published in the field of digital payment.
2. To identify the author and co-author network in the field of digital payment.

3. Thematic mapping in the field of digital payment.
4. Most productive journals, countries, and authors in the field of digital payment.
5. Citation analysis of digital payment related research articles.

RESEARCH METHODOLOGY

Evaluation and analysis of research works of various scholars through bibliometric analysis is essential to identify further research areas (Moral-Muñoz et al., 2020). There are many applications like CitNetExplorer (Van Eck and Waltman, 2014), bibliometrix (Aria and Cuccurullo, 2017), VOSViewer (Van Eck and Waltman, 2010), CiteSpace (Chen, 2006), which helps in conducting bibliometric analysis. Various tools for bibliometric and scientific analysis was presented by Moral-Muñoz et al. (2020) in an updated review.

We aim to answer a few research questions through this bibliometric study: How many scientific research articles have been published on digital payment in different journals? How many papers are cited on digital payment or mobile payment? Which words are most frequent keywords in various published journals? Which countries are the most productive and which journals are producing maximum in the field of digital payment? We found the answer for the above mentioned questions by searching through Scopus database on digital payment on 25th September 2023. We found 289 articles, out of which we eliminated book reviews, editorials, and meeting abstracts. There were no other restrictions imposed and a bibliometric analysis was performed on 236 documents with Biblioshiny for bibliometrix package in R software and also we used VOSViewer for the same. These analyses revealed most relevant authors, most relevant sources, most local cited sources, different source dynamics, collaboration network, country collaboration, most frequent words, co-occurrence networking, thematic map, clustering, and many more. There are very few bibliometric analyses on digital payment or digital economy.

The present study used the integration of Systematic Literature Review (SLR) and bibliometric analysis to conduct this study which is iterative, transparent, replicable, and structured in nature.

BIBLIOMETRIC ANALYSIS (RESULTS AND DISCUSSION)

For analysing the data and graphical visualisation, we took the help of VOSViewer software, where the relation of different networks is considered. To create different maps through VOSViewer, the integration of network data, text data, and bibliographic data are taken, where flexibility exists for different types of files. The same is used in csv format for bibliographic information in the article and performed various types of analysis like thematic map, co-occurrence network analysis, word cloud, citation analysis, and many more.

Thematic/Strategic Map

The motor theme, which is displayed in the upper right corner of the graph in the aforementioned figure, is the central component of the search field because it is completely implemented and has strong connections to other themes. The main subject is displayed in the lower right corner of the chart and forms the basis of that specific publishing series. Low density accompanied by a high degree of centrality has been observed. It is possible for well-developed yet dispersed subjects to have high densities and low centralities.

In the above figure, the themes like digital payment, electronic money, mobile payment has high density with nearby high centrality. The emerging themes are digital payment, social media analytic, social networking (online), adaptive management, perception. High centrality theme are behavioural research, behavioural intention, facilitating conditions. The basic themes are behavioural intention, payment method. More used themes are technology adaption, consumer behaviour, consumption behaviour, meta-analysis, electronic money, mobile payment, digital payment.

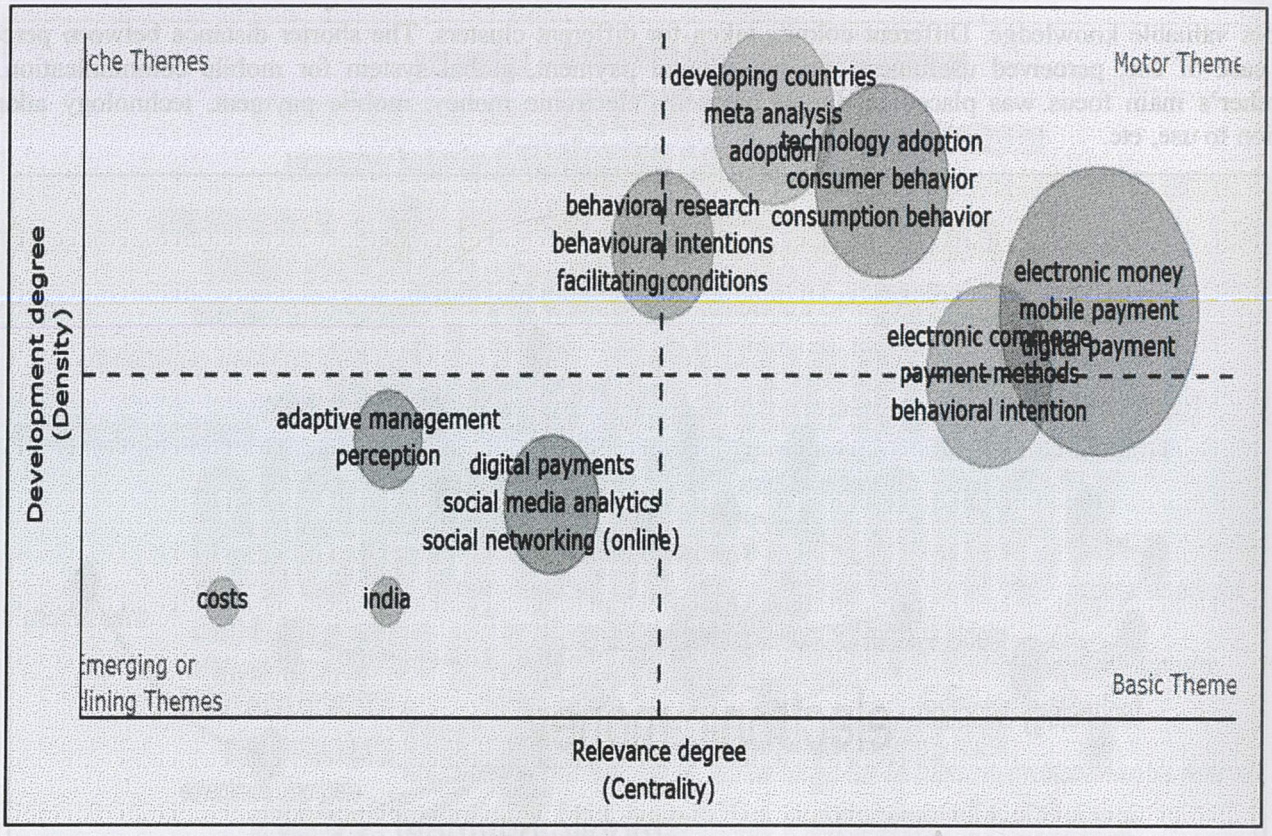

Fig. 5.1: Thematic Map

CO-OCCURRENCE NETWORK

Each node in a network represents an entity (e.g. article, author, country, institution, keyword, journal). A keyword wherein - the size of the node indicates the occurrence of the keyword (i.e. the number of times the keyword occurs), the link between the nodes represent the co-occurrence between keyword (i.e. the number of times that the keywords co-occur or occur together), the thickness of the link signals, the occurrence of co-occurrence between keywords (i.e. the number of times that the keywords co-occur or occur together), the bigger the node, greater the occurrence of keyword; the thicker the link between nodes, greater the occurrence of the co-occurrence between keywords. The size of the node represents the number of keywords occur. To know the link between the nodes, we have taken the co-occurrence between keywords (i.e. the number of times of co-occurrence of the keywords), the thickness of the link signal, the bigger size of the node, more occurrence of keywords.

At the center of the search field is the motor theme, which is displayed in the upper right corner of the graph in the above figure. It is fully executed and has a strong and wide association with other themes. The main subject, which forms the basis of the specific publishing series, is seen in the lower right corner of the chart. The degree of centrality has been great, but the density has been low. It is possible for a subject with a high density and a low centrality to be developed but divided.

We show the keyword cluster according to their number of associations and the degree of strength of their interaction in order to examine the co-occurrence network of keywords connected to our research field. The intensity of the cluster is indicated by the distance between the circles. The map demonstrates that digital payment/electronic money is the most researched topic followed by mobile payment, technology adoption, payment services, sales intention to use, payment system, facilitating condition, behavioural intention, electronic commerce, online shopping, social networking (online), social media analytics with occurrences, electronic money emerged as the most popular author keyword followed by mobile payment, technology adoption with occurrence. The study resulted in a total of 46 keywords organised into 8 groups, with each cluster represented by a distinct colour. Author keyword analysis

provides valuable knowledge. Different colours taken for different clusters. The shorter distance between perceived trust, ease of use, perceived usefulness, finance, digital payment, global system for mobile communication. The researcher's main focus was placed in digital payment, electronic money, mobile payment, technology adoption, intention to use, etc.

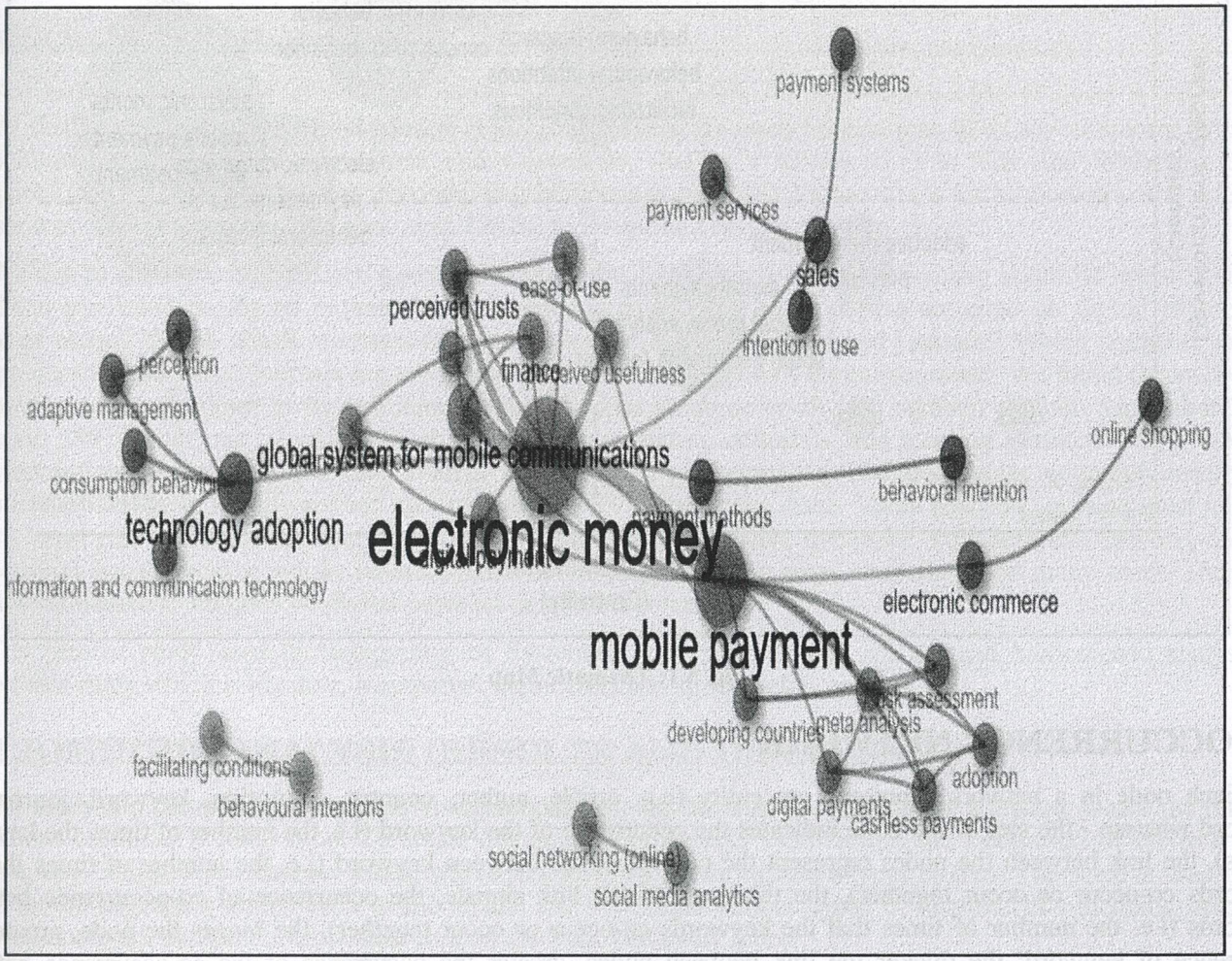

Fig. 5.2: Co-occurrence Network

WORD CLOUD

The appearances of the word, the various sizes of the word always display through Word Cloud image. Always through this analysis, the dominating words are displayed in the middle of the figure. Word clouds often appear in data collection of research paper on the theme of digital payment in mobile payment, electronic money and digital payment in different ways. The words are displayed as by the descending order of font sizes with different colours. In above first electronic money, then mobile payment followed by digital payment and technology adoption.

Fig. 5.3: Word Cloud

BIBLIOGRAPHIC COUPLING

Kessler (1963) introduced bibliographic coupling which shows the correlation of two articles through citation of a common third work and those articles become bibliographically correlated. Homogeneous documents are coupled together to form clusters through bibliographic coupling. In this study, huge number of studies were grouped under 7 clusters by using VOSViewer software. The overview of clusters are briefly explained in the above figure and clusters are taken in decreasing order of size. Those documents are considered as per the the number of documents with times of use in different years.

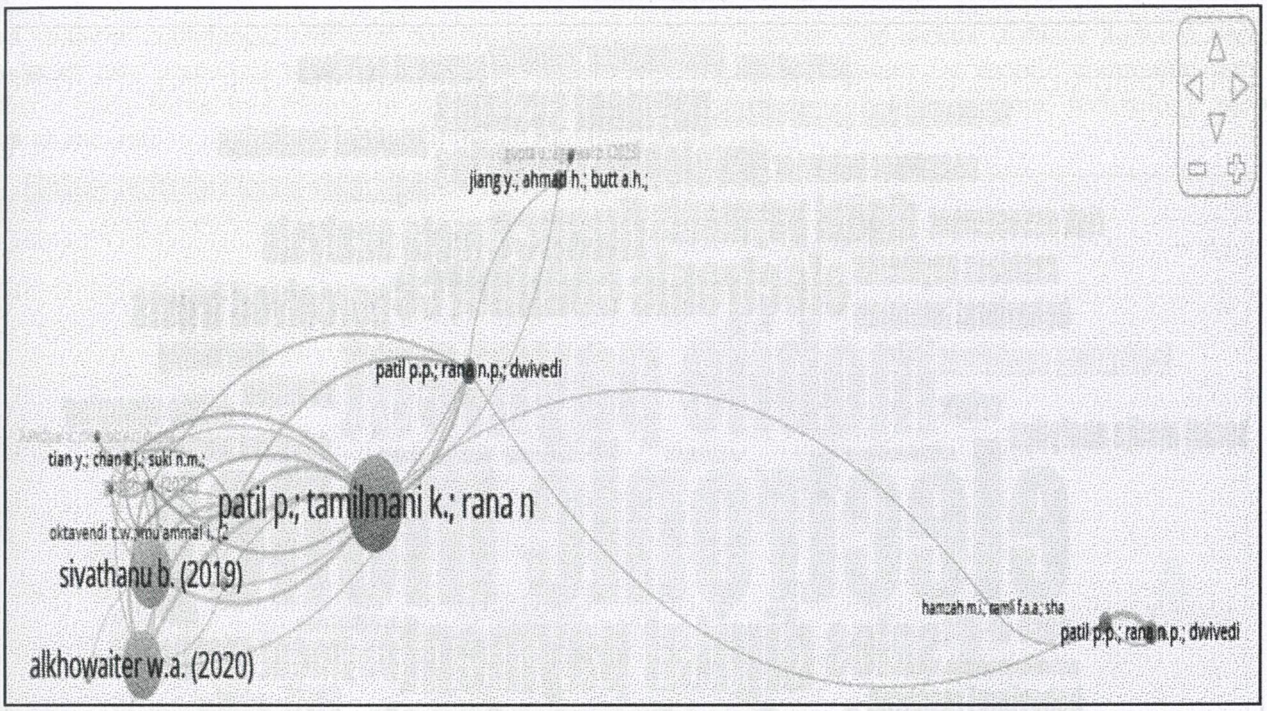

Fig. 5.4: Bibliographic Coupling

Threefold (Sankey Diagram) Analysis

Sankey diagram is a tool used to depict visual representation of publication output, publication impact, collaboration impact for the scientific community in a bibliometric analysis (Koo, 2021). In the above diagram, the name of the author in the left, Title of the topic in the middle, and keywords with page number is mentioned in the right. The cited references were also created to depict the portion of research topics on digital payment from each country and their citation along with recency of the papers are also mentioned. The above figure displays authors, countries which cover the topics of digital payment, and trust as relevant author keywords in a high portion of the articles. Also, the figure reveals that different countries concentrate on digital payment and trust on the publication. Digital payment is the main keyword suggested by the authors.

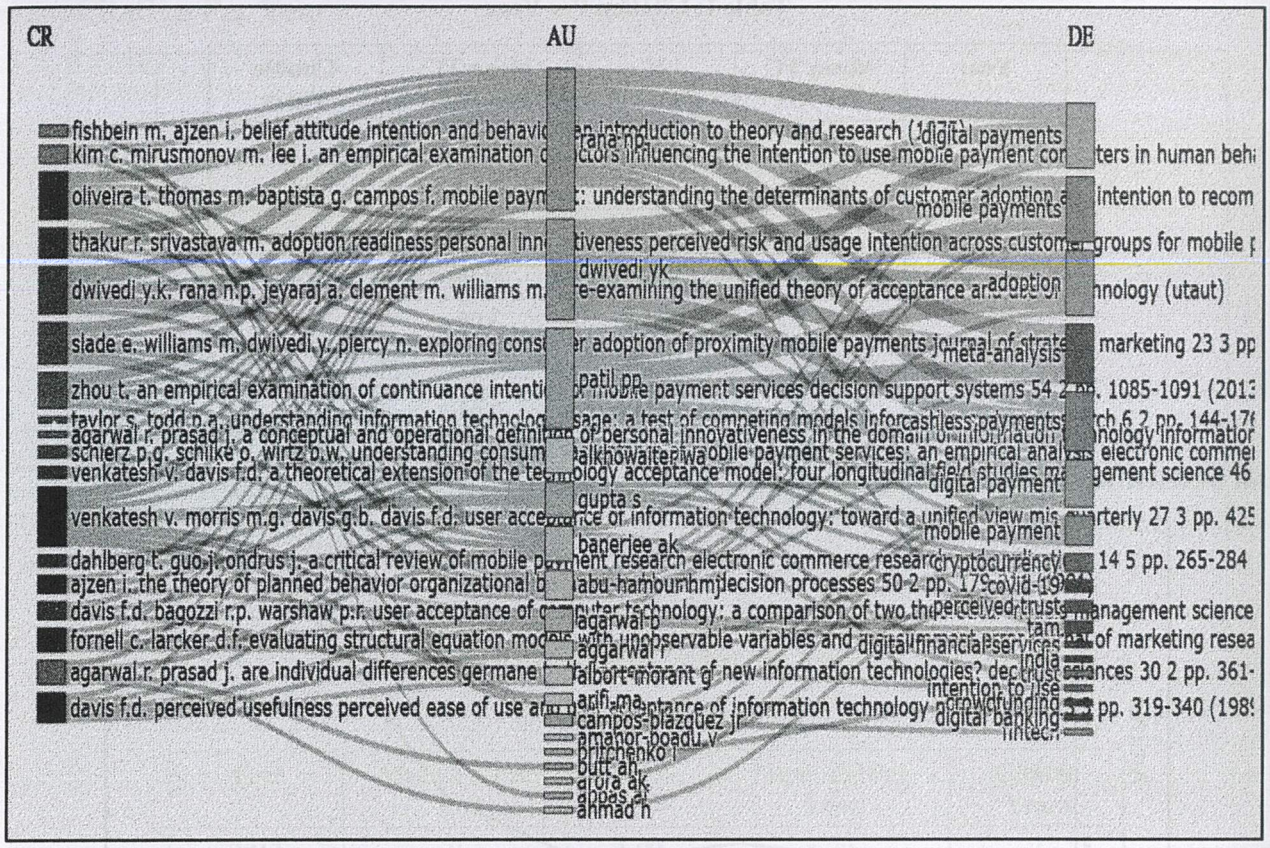

Fig. 5.5: Sankey Diagram

AVERAGE CITATION PER YEAR

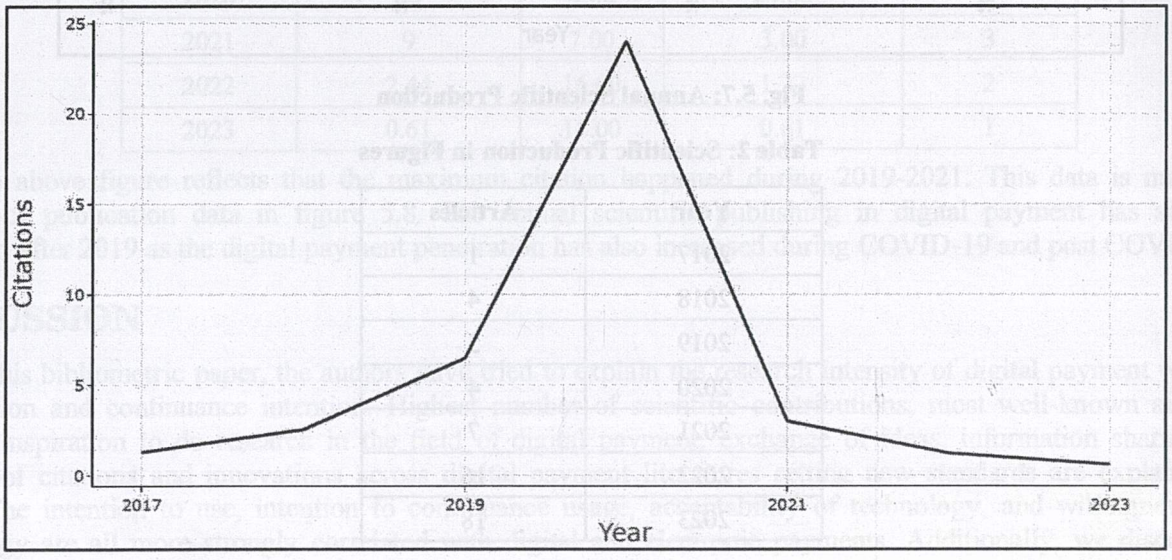

Fig. 5.6: Avg. Citation Per Year

Table 1: Citation Per Year

Year	Mean TC Per Art	N	Mean TC Per Year	Citable Years
2017	9	1.00	1.29	7
2018	15.25	4.00	2.54	6
2019	32.4	5.00	6.48	5
2020	96	4.00	24.00	4
2021	9	7.00	3.00	3
2022	2.44	16.00	1.22	2
2023	0.61	18.00	0.61	1

Annual Scientific Production

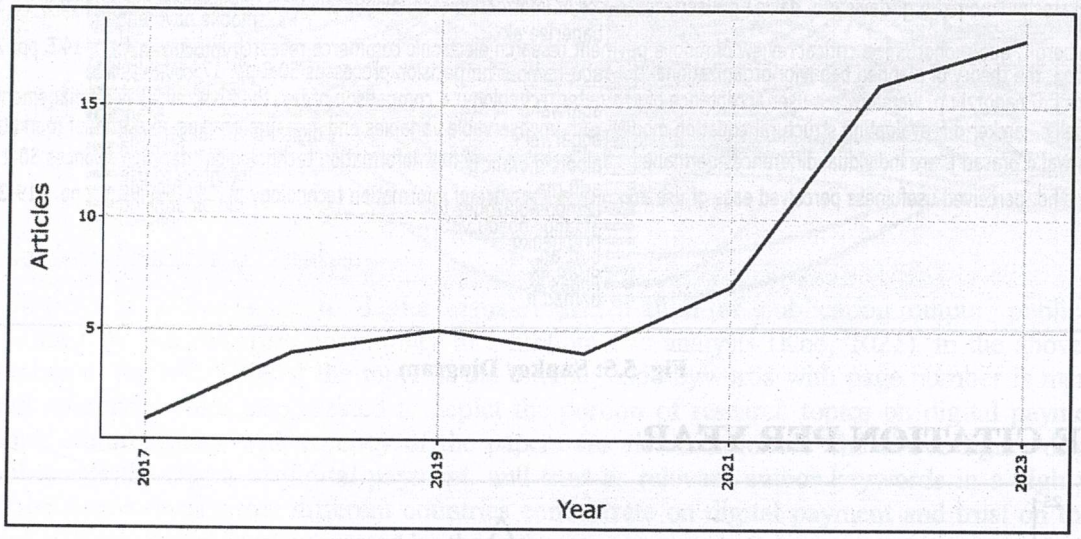

Fig. 5.7: Annual Scientific Production

Table 2: Scientific Production in Figures

Year	Articles
2017	1
2018	4
2019	5
2020	4
2021	7
2022	16
2023	18

Average Citation Per Year

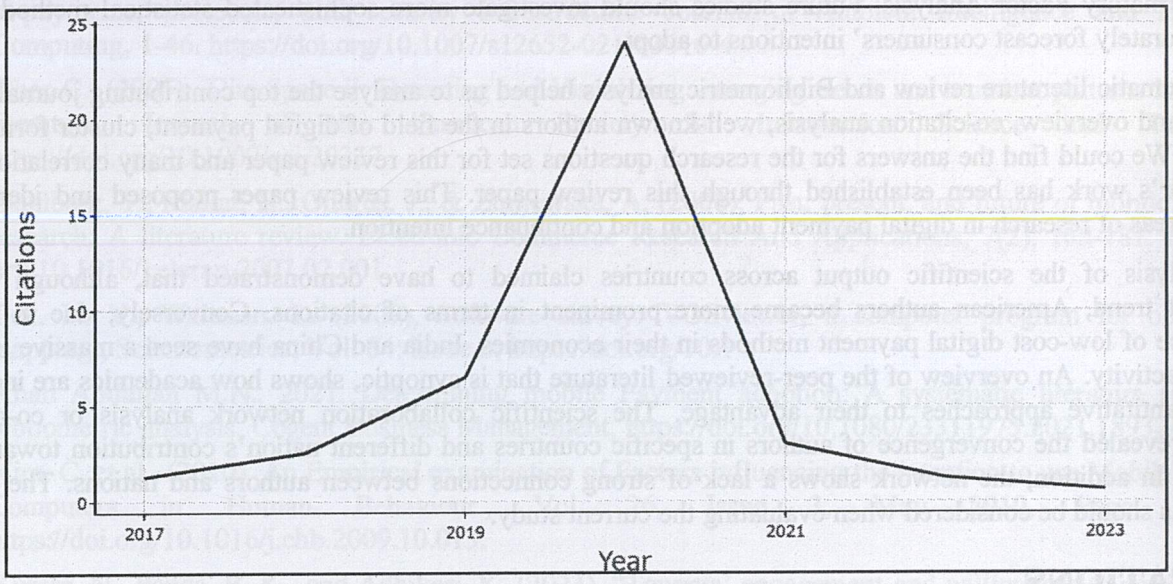

Fig. 5.8: Average Citation Per Year

Table 3: Citations Per Year

Year	Mean TC Per Art	N	Mean TC Per Year	Citable Years
2017	9	1.00	1.29	7
2018	15.25	4.00	2.54	6
2019	32.4	5.00	6.48	5
2020	96	4.00	24.00	4
2021	9	7.00	3.00	3
2022	2.44	16.00	1.22	2
2023	0.61	18.00	0.61	1

The above figure reflects that the maximum citation happened during 2019-2021. This data is matching the number of publication data in figure 5.8. The annual scientific publishing in digital payment has significantly increased after 2019 as the digital payment penetration has also increased during COVID-19 and post COVID-19.

DISCUSSION

In this bibliometric paper, the authors have tried to explain the research intensity of digital payment with respect to adoption and continuance intention. Highest number of scientific contributions, most well-known authors who provide inspiration to do research in the field of digital payment, exchange of ideas, information sharing, highest number of citations and innovations across digital payment literatures setting new standards are explained in this paper. The intention to use, intention to continuance usage, acceptability of technology, and willingness to adapt technology are all more strongly correlated with digital and electronic payments. Additionally, we discovered that digital and electronic payments are closely related to security, safety, and trust.

Using surveys and quantitative data, a vast and expanding corpus of research has examined adoption intention and behaviour. The evaluation made clear that a significant number of research techniques have been used to investigate the topic of mobile payments in-depth. By modifying the constructs from earlier studies, researchers have made significant contributions to empirical papers in a variety of investigations, leading to a huge number of empirical studies. Scholars from many fields employed a range of statistical methods to examine original data. The

most popular statistical method among researchers is Structural Equation Modeling (SEM), which is closely followed by Confirmatory Factor Analysis. Future studies should investigate more sophisticated statistical methods that can more accurately forecast consumers' intentions to adopt.

Systematic literature review and Bibliometric analysis helped us to analyse the top contributing journals, citation analysis and overview, co-citation analysis, well-known authors in the field of digital payment, cluster formation and analysis. We could find the answers for the research questions set for this review paper and many correlations among the author's work has been established through this review paper. This review paper proposed and identified the various areas of research in digital payment adoption and continuance intention.

Analysis of the scientific output across countries claimed to have demonstrated that, although lacking a consistent trend, American authors became more prominent in terms of citations. Conversely, due to the rising acceptance of low-cost digital payment methods in their economies, India and China have seen a massive increase in research activity. An overview of the peer-reviewed literature that is synoptic, shows how academics are increasingly using quantitative approaches to their advantage. The scientific collaboration network analysis or co-authorship analysis revealed the convergence of authors in specific countries and different nation's contribution towards digital payment. In addition, the network shows a lack of strong connections between authors and nations. The following limitations should be considered when evaluating the current study.

LIMITATIONS

The aforementioned networks show how poorly connected authors and countries are to one another. The sole database used in this study was Scopus; other databases, such as WOS, conference publications, editorial pages, book reviews, etc., were not used. With the expansion of databases like ProQuest, IEEE Xplore, Dimensions API, ABI, and others, future scholars can further their work. The current study examined adoption studies from the perspective of the customer; however, future research should concentrate on digital payments from the perspective of all stakeholders. Very few authors (F. Liébana-Cabanillas et al., 2014; B. Shaw & Kesharwani, 2019) examined the mediating and moderating variables influence on digital payment adoption and continuance intention, although the majority of recent research on digital payments focused on adoption intention. The mediating and moderating variables like technological adoption factors can be further evaluated to examine the continuance intention of digital payment.

Scope for Further Research

Exhaustive literature review revealed that there has been incremental progress in the body of literature and some of the major research gaps were identified in the field of digital payment. Therefore, we propose future research avenues in this paper. In the current review paper, we identified that majority of the studies established the adoption of mobile payment and digital payment from different consumer perspective, but merchant perspective has not been explored and very few papers evaluated the merchant behaviour towards digital payment. So, authors can explore the merchant adoption of digital payment and merchant's participation is a key to digital payment adoption (Dahlberg et al., 2008). Demand side factor is the major reason behind low rate of adoption in digital payment (Ligon et al., 2019). There are many reasons highlighted by different authors for non-adoption of digital payment like consumer's lack of enthusiasm to make digital payment, tax liability, security issues, privacy, cyber fraud, etc. Academicians can help to overcome these fear factors by establishing empirical evidence through quantitative research for adoption intention.

This review paper is presenting a comprehensive overview of academicians and practitioners for digital payment adoption and continuance intention since 2007. This research paper will definitely contribute the advancement of research in the field of digital payment continuance intention despite many limitations.

REFERENCES

- Aria, M. & Cuccurullo, C. (2017) bibliometrix: An R-tool for comprehensive science mapping analysis, Journal of Informetrics, 11(4), pp 959-975, Elsevier.
- Bibliometric analysis in science: An up-to-date review, El Profesional de la Informacion 29(1).

- Bojjagani, S., Sastry, V. N., Chen, C. M., Kumari, S., & Khan, M. K. (2021). Systematic survey of m-payments, protocols, and security infrastructure. Journal of Ambient Intelligence and Humanized Computing, 1-46. https://doi.org/10.1007/s12652-021-03316-4
- Chen.C., (2005)., Cite Space ii: Detecting and Visualizing emerging trends and transient patterns in scientific literature, Journal of the American Society for Information Science and Technology, https://doi.org/10.1002/asi.20317
- Dahlberg, T., Mallat, N., Ondrus, J., & Zmijewska, A. (2008). Past, present, and future of mobile payments research: A literature review. Electronic Commerce Research And Applications, 7(2), 165-181. https://doi.org/10.1016/j.elerap.2007.02.001
- Eck. N. V., Waltman. L. (2009), Software survey: VOSviewer, a computer program for bibliometric mapping., Scientometrics, Vol. 84: Issue 2, https://doi.org/10.1
- Khan Abdullah M.N., 2021. Determining mobile Payment adoption: A systematic literature search and bibliometric analysis. Cogent Business Management, https://doi.org/10.1080/23311975.2021.1893245.
- Kim. C. et.al., (2010). An Empirical examination of Factors influencing the intention to use Mobile Payment. Computers in Human Behaviour., Vol. 26, Issue 3, May 2010, Page 310-322.: https://doi.org/10.1016/j.chb.2009.10.013.
- Kumar, N., Panda, R. K., and Adhikari, K. (2023), "Tourists' engagement and willingness to pay behaviour during COVID-19: an assessment of antecedents, consequences, and intermediate relationships," Journal of Hospitality and Tourism Insights, Vol. 6 No. 2, pp. 1024-1042. https://doi.org/10.1108/JHTI-02-2022-0050
- Lee. J.M., Lee. B., Rha. J.Y., 2019., Determinants of Mobile Payment usage and the moderating effect on gender: Extending the UTAUT model with Privacy Risk., International Journal of Electronic Commerce Studies, 2019 academic-pub.org.
- Liébana-Cabanillas, F., Sánchez-Fernández, J., & Muñoz-Leiva, F. (2014). Antecedents of the adoption of the new mobile payment systems: The moderating effect of age. Computers in human behaviour, 35, 464-478.
- Ligon, E., Malick, B., Sheth, K., & Trachtman, C. (2019). What explains low adoption of digital payment technologies? evidence from small-scale merchants in Jaipur, India. PLoS ONE, 14(7), 1-22. doi:10.1371/journal.pone.0219450.
- Munoz. A. M., Campos. A., Piedra. M. A. M. (2017) The Challenges of Discovering the threshold concepts of Medical Research Areas: A Bibliometric-based approach., https://doi.org/10.1016/j.mehy.2020.110099
- Munoz. J. A. M., Viedma. E. H., Espejo. A. S., Cobo. M. J. (2020) Software tools for conducting research study.
- O. Tounekti, A. Ruiz-Martinez, A. F.S . Gomez, (2022), Tounekti, O., Ruiz-Martinez, A., & Gomez, A. F. S. (2022). Research in Electronic and Mobile Payment Systems: A Bibliometric Analysis. Sustainability 2022, 14(13), 7661; https://doi.org/10.3390/su14137661.
- Shaw, B., & Kesharwani, A. (2019). Moderating effect of smartphone addiction on mobile wallet payment adoption. Journal of *Internet Commerce*, *18*(3), 291-309.

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