

CHAPTER 9

KNOWLEDGE MANAGEMENT IN E-PAYMENT SYSTEM: A BIBLIOMETRIC ANALYSIS

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ABSTRACT

The technological era has been broadened in the arena of payments in order to provide consumers a holistic approach and for that knowledge management system played a pivotal role as an enabler for online knowledge optimization. With the help of knowledge management system implementation in the procedural online payments, traditional ways got challenged. The aim of this study is to accumulate the collection of work performed in the fields of knowledge management and online/e-payment systems. To present the outcome in a creative and summarized manner, bibliometric analysis is being performed by the author for grabbing in-depth outcomes. Few literatures are available on knowledge management in relation with online payments. As per Scopus database, 1,015 works of different authors are available out of which 345 are open access. With the help of co-authorship and co-occurrence analysis performed on VOSviewer software, conceptual framework will be enriched for the policymakers and academicians in enhancing further studies. The practical implications will provide ample of innovative ideas

to conquer the hearts of customers as far as online payment sector is concerned. Further study could be performed with empirical data concise to an area after survey data collection, also socio-cultural impact factors for making online payment decisions.

9.1 INTRODUCTION

Central focal point for this study is based on Knowledge Management in the sphere of E-payment system. The framework for creating the shared and united system for interface is available that is having caliber of business performance improvement.(Abubakar et al., 2019; Di et al., 2021)

For effective online payment platforms, proper knowledge base must be created with available information, benefits must be known to the customers who want to use those platforms for fund transfer or capturing any data for further usage. So many methods are available from documentations, guidelines, FAQs, tutoring, training, to forums, intranets, collaboration environments, learning and training, case studies, webinars and many more. (Lopez-nicolas & Jose, 2008; Santoro et al., 2017)

So many questions are being asked to gather proper knowledge regarding the fund transfer or payment making options within or outside an organization while making any transactions and for that knowledge management tools and techniques need to be advanced.

Knowledge maps, knowledge bases, idea banks etc. helps in creating faithful criteria in an organization for solving customers' query as a whole. For quick responses and problem resolutions knowledge management systems support the organizations at a pace rate.

There are many types of knowledge with the help of which the system can be made advanced like explicit and implicit knowledge, tacit and declarative knowledge, procedural, a priori knowledge etc.

9.2 OBJECTIVE OF STUDY

- To study about the role of knowledge management in E-payment arena
- To analyze the accumulation of the literatures through bibliometric analysis

9.3 REVIEW OF LITERATURE

(Di et al., 2021) surveyed the available scientific literature over knowledge management system in which 46 articles were taken into consideration within the timeframe ranges from 1990-2020. The outcome grabbed attention through identifying connectivity between innovation and sustainability in the knowledge management system perspective for supporting global growth. (Badamas, 2009) focused on the acceleration of e-commerce with the correlation impact of three elements i.e., knowledge, information and IT its effective use in Africa. (Lopez-nicolas & Jose, 2008) presented the correlation between customer knowledge management (CKM) and e-commerce on the basis of features like internet and risk preference, impact of IT on customers' online perceived risk purchase intentions and tools through empirical study based on a survey implemented on 276 respondents and performed multidimensional analysis. (Xu et al., 2023) aimed on integrating the business strategies used to lead effective new product development in high-tech companies through knowledge management efficiency. Systematic literature review have been performed with the help of R-studio and VOSviewer software to showcase the database outcomes. 28548 in 22 years from Scopus, Web of Science are being accumulated. (Le et al., 2019) studied the advantage theory in order to conceptualize the value chain actors and financial performance with the help of knowledge management. (Khan, 2021) performed comprehensive research through systematic literature review from the period ranging between 2005-2020 and got 56 studies for performing bibliometric analysis and co-citation analysis as a part of the investigation study. (Bose, 2016) grabbed the chance in studying intellectual capital of an organization for gathering competitive advantage and complex business requirements to cope with the challenges in the e-commerce of a system.

(Information, 2013) processed the information related to the various domains of knowledge management along with its multi-dimensional aspects for helping the policymakers and practitioners. Also the role of IT and research areas that are extended towards new innovations are being covered in this study.

9.4 SIGNIFICANCE OF KNOWLEDGE MANAGEMENT IN E-PAYMENT SYSTEM

- **IMPROVE CUSTOMER SATISFACTION-** There will be more flexible conversations with the customers through various platforms usage which will help ultimately the customers to be more satisfied.
- **REDUCED TIME-** The time in implementing new and innovative strategies in organization will help in growing the synchronicity among the streamlined workforce and well-informed staff.
- **REDUCED COST-** With the help of a range of industrial techniques for the staff and outside organizations for customer dealing , knowledge management plays a vital role in the development of various horizons to satisfy customers and reduce operational costs in day-to-day activities.
- **ENHANCED ACCESSIBILITY-** There has been an immense networking with the help of knowledge management database that helps in create abundant accessibility for the customers without any time gap or delay.
- **PROPER GATHERING AND SHARING OF INFORMATION-** Through the engagement of competent staff and knowledge creating training session, proper and effective information are being shared with the customers making online payments or any transactions with the help of various available tools. These KMS provides such IT solutions that can be ease the procedural loops in online transactions.

9.5 KNOWLEDGE MANAGEMENT METHODOLOGIES FOR E-PAYMENT

- **ENTERPRISE –WIDE KMS-** With the help of structured, semi-structured or knowledge networking systems that involve organizational efforts in

collecting , storing and distributing the information in streamlined workflow, customer get the delighted feeling after usage of systems efficiently.

- **KNOWLEDGE WORK SYSTEMS-** Specially designed for financial aiding, virtual reality systems or computer-aided systems like most of the fund transfer element that helps in ample knowledge repository base which fits in an organizational model.
- **INTELLIGENT TECHNIQUES-** Through algorithms, neural networks or data mining techniques, there has been an immense growth in the fast decision making of the customers and also it helps in strengthening the customer base having loyalty in usage of the tools for attracting customers.

9.6 BIBLIOMETRIC ANALYSIS

The bibliometric analysis paves a path to showcase the synchronicity amongst various studies available on the renowned databases like Google scholar, Scopus, Web of Science, etc. The systematic literature review always provides an in-depth knowledge about the variations in the reviews of literatures given by various authors, countries, organizations. (Akhavan et al., 2016; Di et al., 2021; Khan, 2021) The Boolean operators ‘AND’ is being used between the terminologies named Knowledge management and E-payment. Time frame undertaken between 2014-2023 which processed and total 1,015 papers were available out of which 345 is open access. So, the data has been extracted after limited to open access only.

9.7 CO-AUTHORSHIP ANALYSIS

In the fig. 5.1.1 below, the analysis has been performed on the basis of 345 papers collected from the Scopus database after choosing co-authorship for the organizations. Minimum number of documents of an organization should be 2 and minimum citations should be 20. Out of 2198 organizations, 44 meet the required threshold. As a result generated with the help of the VOSviewer software, 22 clusters were found having 48 links and total link strength was 74 amongst the clusters. The Faculty of Engineering & IT, British University Dubai, UAE from cluster 1 (Red)

got the highest 10 linking nodes with 18 total link strength and mentioned in 10 documents. On the second place, The University of Sarjah, United Arab Emirates from cluster 2 (Green) with linking nodes total link strength and mentioned in documents as per the diagrammatic representation.

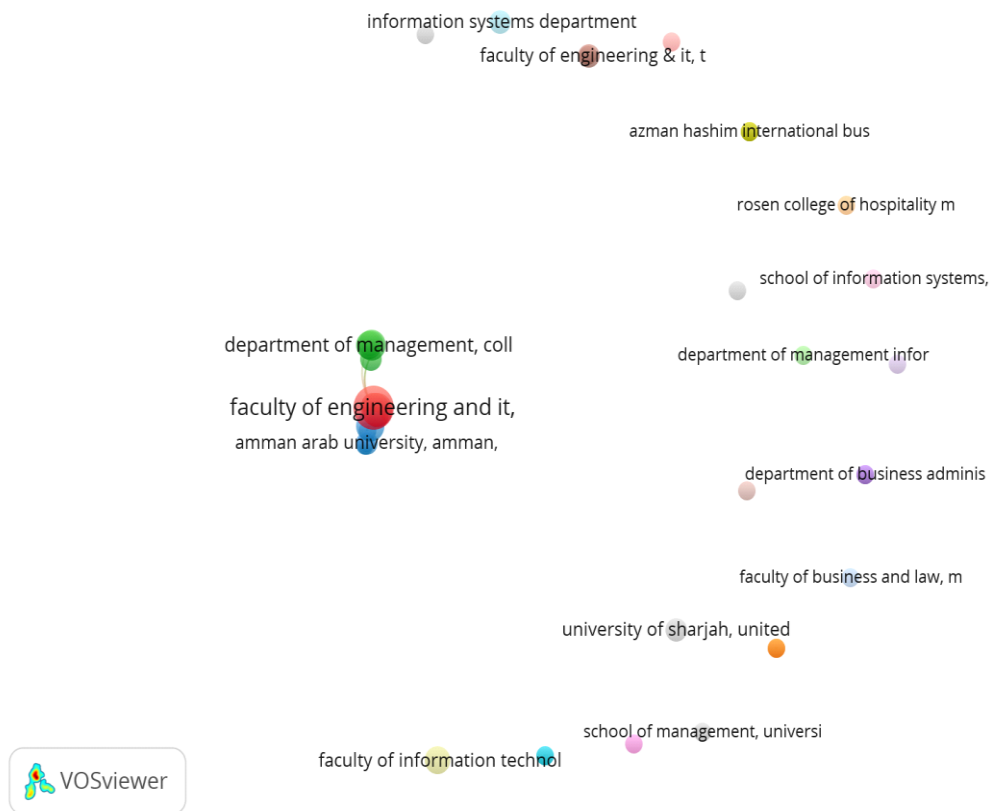


FIG. 9.1 TOP ORGANIZATION PERFORMANCE STUDY-NETWORK VISUALIZATION (SOURCE: AUTHOR’S COMPILATION)

In the **fig 9.1** below, co-authorship performed on the basis of authors as a unit of analysis. Minimum number of documents of an author is set to 5 and minimum number of citations of an author is 9. Out of 2769 authors, 17 meet the threshold. Out of 8 clusters, only 3 are closely connected to each other and worked on this rising subject matter.

- **Cluster 1** in red color with 4 items 5 links and 16 as total link strength and cited in 8 documents. The authors are (Al. Kurdi B., Alshurideh M.).
- **Cluster 2** in green color with 4 items and the names of authors are (Al-emrem M., Habes M., Salloum S.A., Shaalan K.).

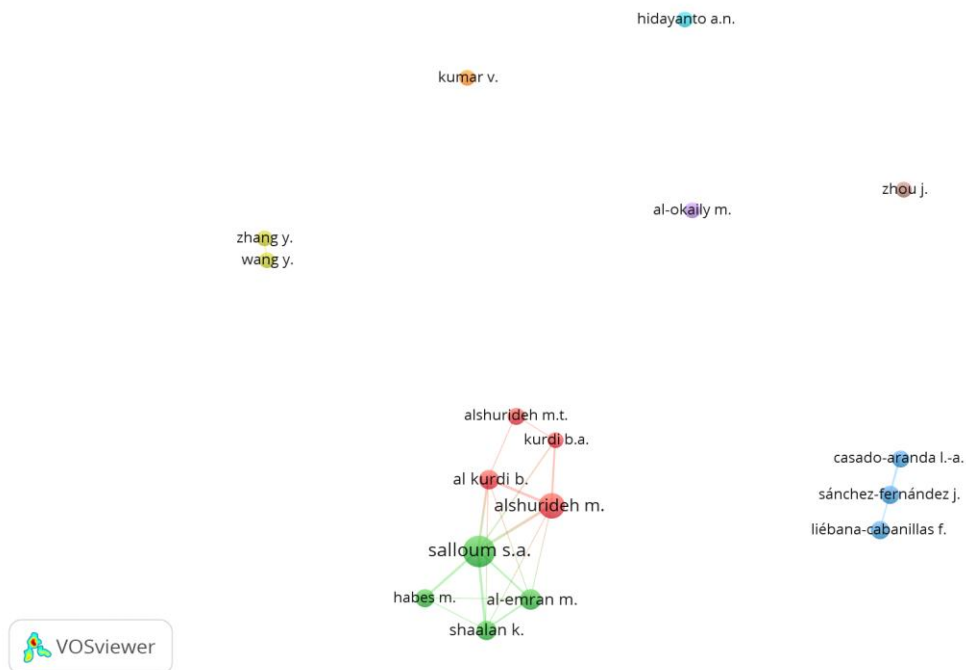


FIG. 9.2 TOP CO-AUTHORS PERFORMANCE STUDY (SOURCE: AUTHOR'S COMPILATION)

In the **Fig. 9.2**, co-authorship analysis for extracting the main countries working on this significant subject has been evolved.

Minimum number of documents of the country was selected 10 and with the help of full counting method the whole analysis has been performed.

Minimum number of citations of a country was also set to 10. Out of 89 countries, 33 countries met the threshold limit. 4 Clusters were being formed as a result with 196 links and 489 total link strength which shows a good connectivity.

- **Cluster 1** with 11 items and red in color, is on the highest place and the country is China having 121 documents with 25 links and 100 total linkage strength.
- **Cluster 2** in Green color, Malaysia which followed China with 126 documents 18 links and 83 total link strength.
- **Cluster 3** with 8 items in Blue is Pakistan with 33 documents and total link is 22 with 56 total link strength.

Last but not the least, **Cluster 4** in Yellow nodes showed United Arab Emirates with 67 documents 12 links and 68 total link strength.

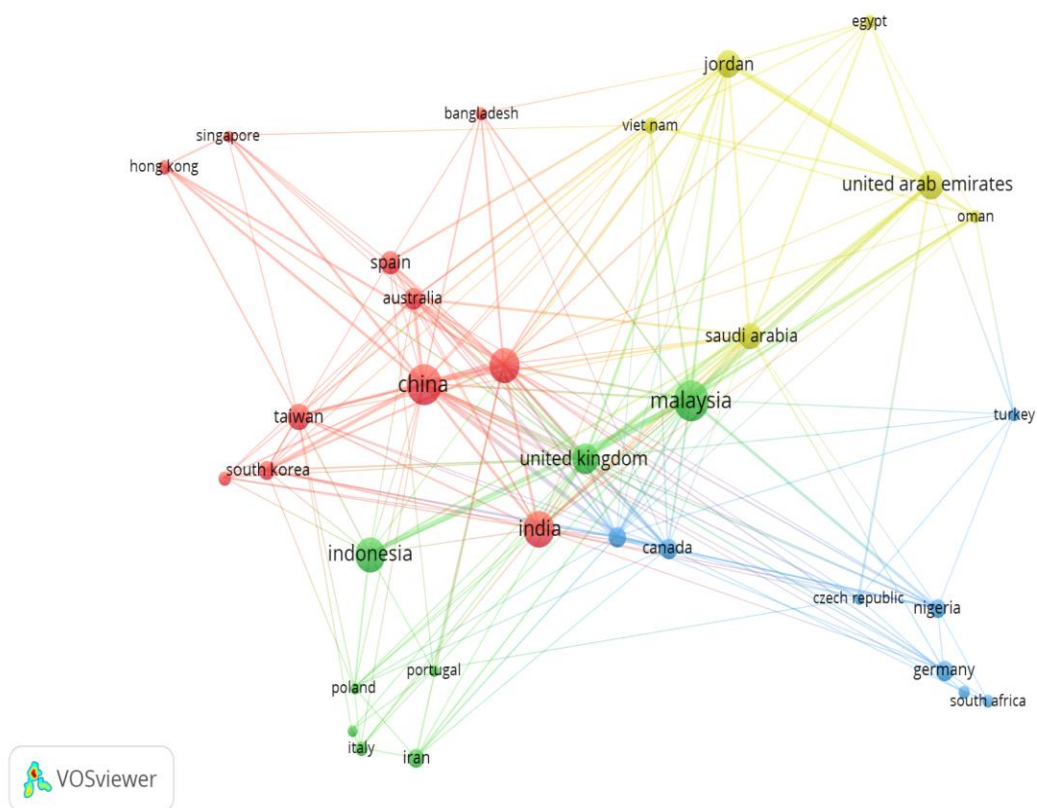


FIG.9.3 MOST STUDY PERFORMING COUNTRIES (SOURCE: AUTHOR'S COMPILATION)

9.8 CO-OCCURRENCE ANALYSIS

The Co-occurrence analysis mapping has been performed on the basis of the title and abstract as field for evaluation. Out of 18,221 terms, 100 meet the threshold. Minimum 50 numbers of occurrences in the documents are being considered. The diagrammatic representation is in visualization of network. There are 60 items, 3 clusters with 1767 links and 29125 is the total linkage strength which is a good sign.

- **Cluster 1** in red color with 34 items, 319 occurrences in the document with 59 links and 2392 total linkage strength. This cluster named as ‘online services elements’.
- **Cluster 2** in green color signifies ‘Usage and Intention’ with occurrences in 341 documents, 59 links and 2894 total link strength.
- **Cluster 3** in blue color with 4 items containing terms related to ‘Design and Methodology’ with 85 occurrences in the studies performed, 59 links and 864 total link strength.

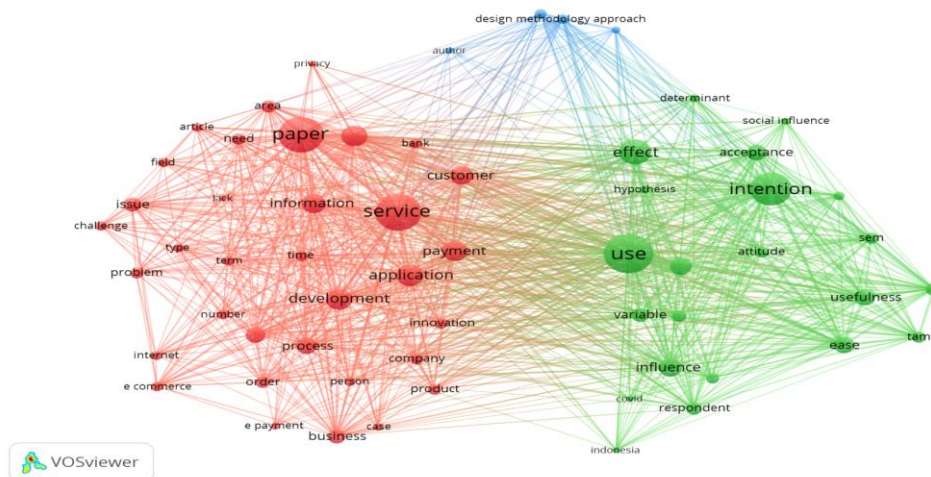


FIG. 9.4 TITLE & ABSTRACT FIELDS ANALYSIS FOR KEYWORD OCCURRENCE, (SOURCE: AUTHOR’S COMPILATION)

9.9 CONCLUSION

The co-authorship analysis has been performed in units of organization, countries and author in order to compile the research work and studies undertaken to work on the knowledge management system. Co-occurrence mapping helped in getting a number of terminologies that can be further used for bibliometric analysis and factors impacting the e-payment knowledge based system. Due to lack of time, limited factors and analysis are being performed by the researchers. Furthermore, there is a scope in the empirical studies for knowledge management system in certain countries and graphical comparisons are being performed for innovative tools introduced in this arena. The practical implication of this paper is helping the practitioners and policy makers along with the academicians.

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