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THE DYNAMICS OF CASHLESS SOCIETY: A SYSTEMATIC REVIEW

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Abstract:

The cashless society is a collective vision of global citizens to create a faster, more flexible, automated payment system. This study aims to formulate findings on publications from 2012-2022, focusing on a cashless society. Using the Systematic Literature Review approach, this study uses sources from the Scopus database to identify common understanding, supporting factors, and challenges of a cashless society from the views of researchers. This study found that forming a cashless society is a solution to efforts to grow the economy and speed of transactions in society. Another benefit is preventing corruption, levies, and fraud where electronic payments made on record have suppressed this crime. However, the dark side of a cashless society is the potential invasion of privacy and paralysis of the economic system caused by the failure of the internet system.

Keywords:

Cashless Society, Digital Payments, Electronic Payments, Financial System, Financial Technology, Systematic Literature Review, Technology-based Payments

Introduction

Payments are the backbone of value exchange in society, reflecting the speed at which goods and services are turned (Arvidsson et al., 2017). The global community, with systematic technological developments, has been encouraged to use new payment methods that are easier and faster. Various financial researchers and practitioners provide a vision of the future

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regarding the form of society that no longer uses material money as a means of transaction, which has come to be referred to as a "cashless society" (Bátiz-Lazo et al., 2016).

The idea of a cashless society started in the 1950s when in 1954, businesspeople in the United States discussed a vision of a "checkless society" (Bátiz-Lazo et al., 2016). Payment by banknotes in that era was found to be increasingly unsupportive of people's transaction mobility. The transaction behaviour of people with a tendency to make transactions faster and higher faces obstacles to the provision of paper-based payment instruments. As is known, the number of mobile wallet users recorded in 2020 was 2.8 billion and is predicted to grow to 4.8 billion in 2025, nearly 60% of the world's population. Southeast Asia, Latin America, Africa and the Middle East have been the countries with the highest adoption of mobile wallets in their efforts to replace cash and cards (Capgemini, 2021).

The idea of a cashless society has received much attention along with the development of digital technology and internet penetration. As a phenomenon of collective adoption in the global community, various researchers discovered the development of digital payments. A study (Yakean, 2020) shows that electronic payments have encouraged the formation of a cashless society. At the same time, the study (Abdullah et al., 2020; Balakrishnan & Shuib, 2021a; Humbani & Wiese, 2017) explains that a cashless society can be formed if the community has been able to adopt new forms of the latest payment methods.

The development of payment technology has been found as a pre-condition for the formation of a cashless society. Information and communication technology literacy is a catalyst for changes in people's payment methods towards non-cash, where governments in various countries have begun to reduce printed money (Kadar et al., 2019). On the other hand, the emergence of privately owned crypto-currencies, especially during the global crisis in recent years, has reduced government control over payment method initiatives (Fabris, 2019). This gives rise to broader independence in the cashless society and raises the potential for other, more complex problems.

Furthermore, fraud and systemic failures in the banking system are the main issues in forming a cashless society. Paper-based payment systems have caused many problems where recording at the operational level is done manually and segmented (Bátiz-Lazo et al., 2014). In traditional transactions, people exchange banknotes for goods/services to be rolled back into the supply chain system. These transactions do not involve much of the banking system, so the number of banknotes circulating in the community becomes inaccurate. Attempts to counterfeit banknotes are also classic criminal acts that show the weakness of the paper-based payment system, where people are again victims.

Considering the central role of payment models in a cashless society, this study provides an overview of the drivers and challenges of the cashless society. Furthermore, using the Systematic Literature Review approach, it is hoped that the study results provide a formulation of conditions that can be used to evaluate the cashless society in the past and present to provide predictions about future conditions.

The study will be divided into 4 (five) parts: the introduction section currently developed and the methods section explaining the approach and procedure used. Furthermore, various study findings are presented in the results section, and the results are formulated in the conclusion section.

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Literature Review

Financial technology was widely launched in the world in 2010 when various payment methods began to be used by customers in many countries(Alaeddin et al., 2019). The cashless society is a form of the financial technology revolution, referring to people who make payment transactions with digital cards or electronic gadgets (Balakrishnan & Shuib, 2021a). This society is characterized by the spirit of migrating payments from cash-based to technology-based payments (Supattanakul & Maliwan, 2020). Furthermore, (Fabris, 2019) Provides affirmation that a cashless society is a society with a vision of the future that is willing to replace cash with an equivalent digital payment and is legally recorded in the system.

A cashless society deals with the readiness of users to execute payments on electronically connected digital systems. Cashless payment is no longer oriented towards printing money but rather connects the entire process of exchanging value on money generated by computers, not between carriers, but with other terminology, between users (Kadar et al., 2019). In some countries, this change has presented problems, especially related to internet infrastructure provision and gadget ownership in locations where equitable development has not occurred. This challenge is a key consideration for policymakers to continue to preserve cash payments as the main form of financial transactions.

Research Methodology

This study uses a bibliometric approach to find out the number and trends of studies on the topic of the Cashless Society. The databases used are Scopus, Science Direct, Emerald, Springer, and Wiley in 2012-2022. In addition, this study uses the Publish or Perish 8 tool to dig up a database to be processed and mapped on VosViewer to find out the clusters and symptoms of research researchers have conducted.

To get the essence of the shaping factors, obstacles, and challenges of a cashless society as the study's focus, the Preferred Reporting Items for Systematic Reviews and Meta-Analyses approach are used (Pati & Lorusso, 2018). First, the database is owned, and then selection and sorting are carried out according to the procedure to obtain several articles that meet the criteria for analysis. The result of this activity is an overview of the answers to the study focus that has been set related to the cashless society.

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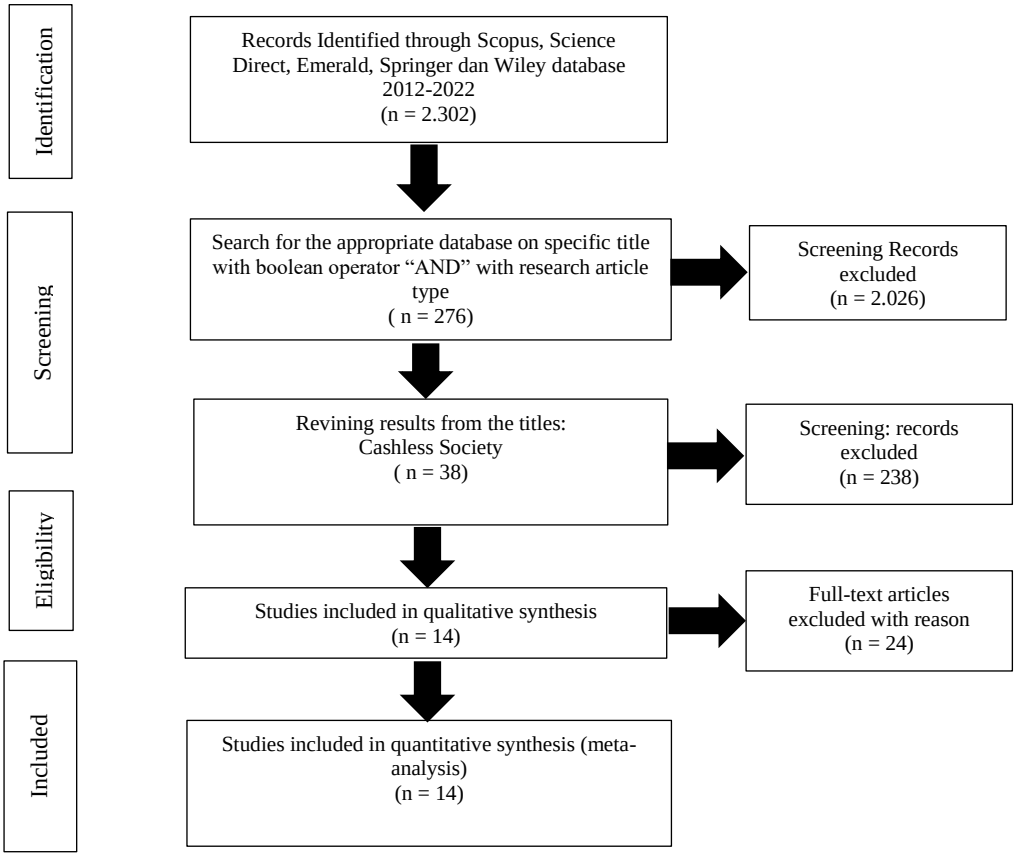

Figure 1: Procedure for Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA)

This study was carried out by identifying data sources from a database of reputable international journals with the cashless terminology society, and a total of 2,302 publications were obtained. Of these, screening was carried out by selecting publications with the main title syntax 'Cashless Society', so 38 documents were selected. In the next stage, the qualitative selection was carried out so that 14 articles were selected to be processed at the analysis stage.

Results

Bibliometric Analysis

Bibliometric analysis is carried out by calculating the number of publications and the impact of studies that have been conducted on the topic of a cashless society. Bibliometrics provides a visualization of study developments and publications on Science Direct, Emerald, Springer, and Wiley data sources as the main outlets indexed by Scopus. The data shows that there has been a significant increase since 2012-2022, where cashless society publications exponentially occurred in the 2017-2022 period. If you pay attention, this year coincides with the rapid development of non-cash payments worldwide, accelerated internet penetration in the wider community and growth in gadget sales, as presented in Figure 2.

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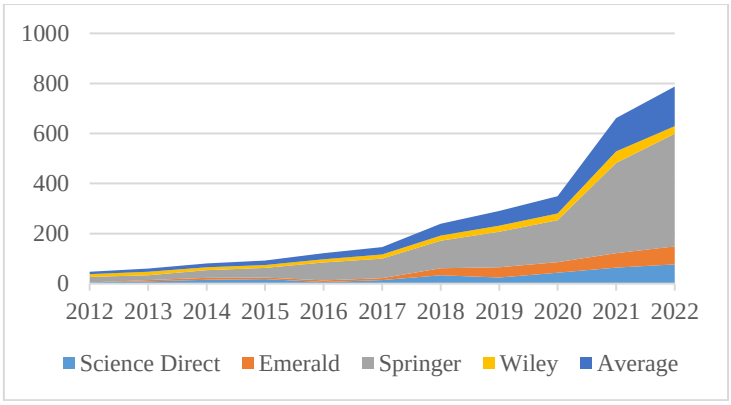

Figure 2: Development of Cashless Society Study 2012-2022
Source: research data, 2022

Studies focusing on cashless society studies have been developed since the 1950s when the development of computers and financial business accelerated after world war II. This encourages researchers to look to the future of centralized and globally connected community payment transactions. The metadata obtained shows that the study of a cashless society over the past ten years has grown exponentially positively. Figure 2 shows the peak of publication growth occurring in 2018-2022. This can be related to the increasingly high trend of digital payments and the Covid-10 pandemic, which has encouraged researchers to examine non-analogue life to increase mobility and payment transactions.

Citation metrics Help

Publication years:	2014-2022
Citation years:	8 (2014-2022)
Papers:	38
Citations:	275
Cites/year:	34.38
Cites/paper:	7.24
Authors/paper:	1.00
h-index:	7
g-index:	16
hI,norm:	7
hI,annual:	0.88
hA-index:	5
Papers with ACC >= 1,2,5,10,20:	19,9,4,3,2

Figure 3: Citation Metrics On Cashless Society Study 2012-2022
Source: research data, 2022

Publications on the topic of a cashless society can be known as presented in Figure 3, where from 38 metadata found in Publish Perish 8, it has an impact of 275 citations with an average of 34.8 citations per year or equivalent to 7.24 citations per publication. In addition, the H-index on this topic was found to be 7, with the average number of authors per article being one person. This shows that the topic of a cashless society has a relatively high appeal and is intertwined with each other.

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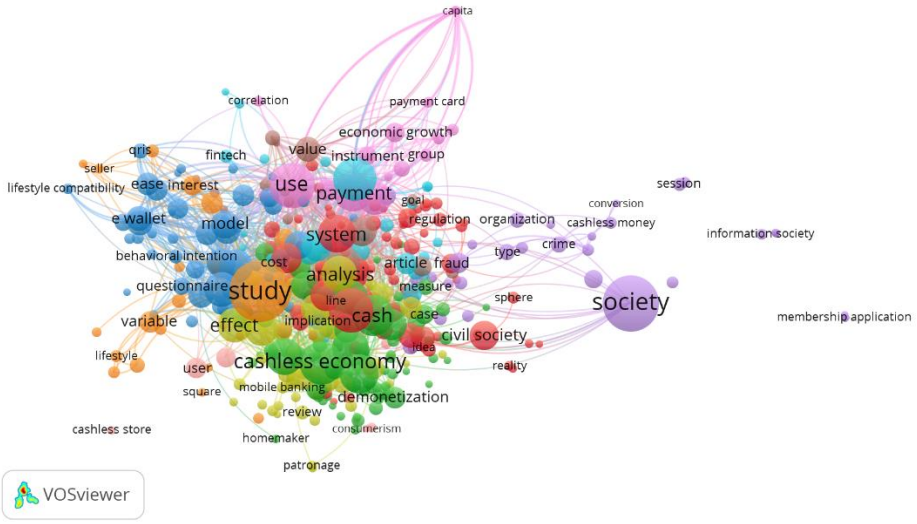

Figure 4: Network Visualization in Cashless Society Study 2012-2022
Source: research data, 2022

By utilizing metadata in cashless society studies processed on VosViewer, various study connections were found with various clusters. Figure 4 shows that a cashless society is at least related to community clusters, systems, use, cashless economy, cashless payments, transactions, and cashless policies. This cluster explains that cashless society studies are built on various interconnected conditions and phenomena. The formation of a cashless society on this map is supported and related to a larger system, namely cashless policies in an area, the use of cashless payments, and the adoption of technology by the community.

SLR Analysis
Using data from the PRISMA procedure, 15 articles were used in the review process. As a result, the researchers put forward various findings related to supporting factors, challenges, and forms of the current cashless society. Table 1 shows the sources, methods, and focus of the study.

Table 1: Focus and Method of Study

Authors	Focus	Methods
(Bátiz-Lazo et al., 2014)	The adoption and establishment of a cashless society in the retail community in the United States with a setting in the 1960s and 1970s.	Descriptive-qualitative
(Humbani & Wiese, 2017)	Measurement of technology readiness index in mobile payment adoption readiness as part of the cashless society.	Quantitative with path analysis
(Rivera, 2019)	The threat of negative impacts in the form of criminal acts and economic disruptions in the formation of a cashless society	Descriptive-qualitative

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Authors	Focus	Methods
(Alaeddin et al., 2019)	The growth of private currencies and the urgency of establishing a digital central bank in a cashless society.	Descriptive-qualitative
(Alaeddin et al., 2019)	Future forms of corruption in the era of the cashless society.	Descriptive-qualitative
(Priananda et al., 2020)	Readiness of microtransaction actors in the use of non-cash payments.	Quantitative with multiple-regression
(Lai & Liew, 2021)	Integrating gamification in mobile payment systems.	PLS-SEM
(Balakrishnan & Shuib, 2021b)	Model of adoption and readiness of cashless society in Malaysia.	PLS-SEM
(van Klyton et al., 2022)	Value co-creation and co-deconstruction process in mobile banking applications for rural communities in Colombia.	Qualitative-ethnography
(Loh et al., 2022)	Adoption of wearable payments towards a cashless society.	PLS-SEM
(Aboubaker & Mohamed, 2022)	Increased use of card-based payments in retail consumers.	PLS-SEM
(Mohd Thas Thaker et al., 2022)	Supporting factors for the use of e-wallets in society in the context of a cashless society.	PLS-SEM
(Anaza et al., 2022)	Digital Payment System 2.0 in shaping the cashless society in the future.	Descriptive-qualitative
(Donohue et al., 2020)	Data protection and privacy in a cashless society.	Descriptive-qualitative

Source: research data, 2022

Based on the data in table 1, various researchers' understandings of a cashless society are known. However, most researchers provide a vision that a cashless society is a view of how people make transactions that are in an integrated system, recorded in a database, and no longer anonymous. This condition is considered ideal for suppressing corruption crimes, especially bribery, illegal levies, and gratuities (Alaeddin et al., 2019; Rivera, 2019).

The realization of a cashless society cannot be separated from the community's readiness to adopt cashless payment technology. A study (Bátiz-Lazo et al., 2014) asserts that the formation of the "electronic payment society" has become the collective vision of the people of the 1960-1970s regarding the future of cashless money. This thinking is motivated more by efforts to improve economic conditions, where crises and money inflation have threatened communal life, so there is a need for an alternative economic stimulus faster and safer from fraud. In addition, the weakness of paper-based money, namely the cost of printing, damage, and potential counterfeiting, has fostered the idea of electronic money, which banks welcome. However, on the other hand, politicians at that time considered that the loss of cash from the payment system was a threat to stability and political hegemony in the economic system.

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Money liberalization has presented private currencies, one of which is cryptocurrencies (Alaeddin et al., 2019). This form of money is recognized as having value and can be transacted in certain communities without much government interference. Nevertheless, the volatility of cryptocurrencies that are present without a solid underlying will cause societal problems. Moreover, this currency also does not have the function of driving the real sector, so the aspect of its expediency is very limited. As a result, some countries have banned the circulation of cryptocurrencies to protect their national interests.

Study (Donohue et al., 2020): There is a threat to implementing a cashless society. On the one hand, recording all transactions on the electronic system provides the benefits of openness and suppresses corruption. However, on the other hand, the threat of loss of privacy and the potential for digital money recording errors are important issues that the global community considers. In the era of information technology, privacy is the only space users do not want to violate. Therefore, policy owners need to consider the importance of safety and comfort in the ownership of a digital asset in implementing a cashless society in their area.

A study by (Anaza et al., 2022) offers a Digital Payment System 2.0 concept that relies on digital wallets, cryptocurrencies, virtual currency, facial recognition, and mobile payments. The DPS 2.0 pillar was developed to create an automated, faster, flexible, and interoperable payment system. The realization of a cashless society in the context of DPS 2.0 is driven by a digital marketplace that encourages people to transact more through this platform. However, the potential disadvantage of this system is the increase in people's debt due to the pay-later mentality and consumerism.

The shaping factors and drivers of the realization of a cashless society are found in several publications. For example, a study (Lai & Liew, 2021) Provides that the intention to use Gamified Mobile Payment is influenced by perceived convenience and perceived security. At the same time, the study (Balakrishnan & Shuib, 2021a) provides an understanding that the adoption of cashless payments can be influenced by factors of readiness for use, risk and intrinsic motivation that are deeply shaped by factors of ease of use, expediency, optimism, innovation, and awareness. This shows that the adoption of cashless payments as a shaper of a cashless society needs to be driven by literacy and competence in using cashless payment features. This study is also supported by (Loh et al., 2022), Where the factors of expediency and ease of use, cost and risk perception have shaped the adoption of cashless payments.

Conclusion

The development of a cashless society has been motivated by the global growth of the internet and gadget users. The public's need for fast, recorded, and flexible payments encourage the financial and banking industries' provision of cashless payment infrastructure. The study has found that various researchers believe that a cashless society is a collective vision of the world's citizens regarding the future of payment systems. The effectiveness and benefit of forming a cashless society are the speed of economic growth and the decrease in the potential for financial crimes. Paper-based money is considered to provide obstacles in the economy and is used as a vehicle for corruption, illegal levies, and fraud. To realize an effective cashless society, individuals' readiness to adopt payment technology is the main shaping factor in the cashless society.

This study has limitations in the metadata sources used using only one source with a cashless-society perspective in general. Cross-analysis with other data outlets and reviewing

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perspectives more focused on the cashless-society topic have not been carried out. Topics regarding the antecedents of adopting a cashless society, policy models and challenges to developing a non-cash community seem to be research opportunities that can be carried out in the future.

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