

Adoption of cashless economy: a review

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Abstract

The adoption of cashless economies has become a popular trend globally. Cashless transactions provide convenience, security, and faster processing times compared to traditional cash payments. This research used the literature review to provide an overview of the adopted literature on cashless economies, including their drivers and barriers. The study uses a Meta-analysis methodology. The review highlights the role of technology, government policies, and social factors in shaping the adoption of cashless economies. Additionally, the review discusses the implications of the adoption of cashless economies for businesses and consumers, including potential risks such as cybersecurity threats and the exclusion of individuals without access to digital payment systems. The review concludes with recommendations for stakeholders to promote the adoption of cashless economies while addressing the challenges associated with this transition. Overall, this review provides valuable insights into the current state of the adoption of cashless economies and the factors that influence it.

Keywords: *cashless economy, e-payment, e-commerce, digital payment.*

Introduction

The monetary system as we know it today began with the barter system, or bartering, which led to the creation of markets. The monetary system took a new step forward in the use of electronic legal tender for monetary transactions. This era is better known as the industrial age, where technology and the sophistication of the Internet are no longer new and all information is easily accessible and usable via the Internet (Sari, 2021). The adoption of a cashless economy refers to the growing trend of using digital forms of payment rather than physical cash. As technology continues to advance, more and more people are turning to digital methods of payment such as credit cards, e-wallets, pre-paid cards, QR scans, smartphone payments, and cryptocurrencies. This shift to a cashless economy is changing the way we conduct transactions and interact with money daily. While the cashless economy has many benefits, such as increased security and convenience, there are also potential challenges, including accessibility and

privacy issues. As such, the adoption of a cashless economy is a complex, multi-faceted topic that requires careful consideration and analysis.

The use of cashless payment methods has increased dramatically in recent years, leading to a gradual shift towards a cashless economy. This trend has been influenced by several factors, including technological advances, changes in consumer behaviour, and the growth of e-commerce. While cash has long been the primary method of payment, digital payment methods such as mobile wallets, online banking, and contactless payments are becoming more common. This shift has significant implications for individuals, businesses, and governments alike, as it affects everything from financial transactions to tax policy. While the adoption of a cashless economy has the potential to increase efficiency, reduce costs and improve financial inclusion, it also raises concerns about security, privacy, and access. It is therefore important to explore the benefits and drawbacks of a cashless economy and develop strategies to ensure that the transition is as smooth and fair as possible.

The adoption of a cashless economy has been a topic of discussion and debate for several years. The word "cashless economy" refers to an economic system in which cash transactions are used much less and digital forms of payment like credit cards, debit cards, mobile payments, and cryptocurrencies are used more. Cashless payments are becoming more common because technology is getting better and more people use electronic devices like smartphones and computers.

One of the main drivers for the adoption of cashless payments is the convenience they offer. Digital payments allow users to conduct transactions quickly and easily without the need to carry physical cash. In addition, cashless payments offer more flexibility in terms of payment options, including the ability to split bills, set up recurring payments, and make international transactions without the hassle of currency conversion. Another important factor that has contributed to the rise of cashless payments is the growth of e-commerce. Online shopping has become increasingly popular and digital payment methods are well-suited to this type of transaction. Consumers can easily make purchases from anywhere in the world, and merchants can accept payments without the need for physical card terminals or cash registers. In addition, the adoption of a cashless economy has the potential to increase financial inclusion, particularly for individuals who may not have access to traditional banking services. Digital payments can provide a secure and convenient alternative to cash transactions, enabling people to participate in the formal economy without having to rely on physical cash.

This research paper aims to evaluate the impact of the pandemic on world payment systems and consumer preferences. Specifically, this paper investigates the impact of the pandemic on the adoption of digital payments and cashless payment systems, and how these changes affect the decisions and priorities of regulators, banks, and other financial intermediaries. While the pandemic has played a role in highlighting the advantages of building innovative and integrated digital payment systems, it has also exposed the fragmented nature of payment systems in various regions of the world.

According to a PwC report (PwC, 2021), global cashless payments will grow by 80 percent between 2020 and 2025 and will nearly triple by the end of 2030.

Eliminating tax evasion and laundering can lower banking costs, enhance monetary policy to reduce inflation and boost a nation's economic growth. Robberies and other crimes involving cash are avoided in a cashless economy, which is another advantage. In the age of technology, financial transactions can be replaced with a cashless economy, which is more practical and efficient. To create a clean economy and assure transaction transparency, this action is being taken. The idea of going completely cashless is an excellent idea for both micro and macro businesses. It can make economic actors more efficient by eliminating all cash transactions and management. Moreover, it can speed up transactions, reduce the customer's time, and wait in line, and increase the number of transactions a store can make. Therefore, for a business to remain relevant, it must be implemented in society.

Despite a wealth of research on digital payments that focuses on topics such as business technology infrastructure and technology adoption, few studies synthesize and generally classify cashless payment technologies and related obstetrical. Certain payment technologies have been mentioned in prior studies. Despite the existing research on payment methods has been done, investigations have been limited to specific payment methods. Notably, Dahlberg et al. (2008) classification is centred on mobile payments. Furthermore, these limitations are primarily discussed in the context of adoption studies. For instance, Ahmad et al. (2021) examine barriers to mobile payment technologies in emerging economies, while Kabir et al. (2015). Investigate issues related to the acceptance of electronic payment systems. Consequently, the present study seeks to address the gaps by offering a comprehensive introduction and a state-of-the-art review of dispersed knowledge on emerging digital payment technologies and their issues. The study also attempted to address two main research questions: (1) What is a cashless economy, and (2) what obstacles do they pose?

The current study contributes significantly to the existing literature on the adoption of cashless economies. Through a systematic literature review employing the Okoli and Schabra method, it consolidates and organizes a broad spectrum of research, offering readers a comprehensive overview. It identifies and emphasizes key drivers and barriers shaping the adoption of cashless economies, encompassing the roles of technology, government policies, and social factors. Additionally, the study delves into the implications of cashless adoption for both businesses and consumers, shedding light on potential risks such as cybersecurity threats and issues concerning financial inclusion. With the timely incorporation of the COVID-19 pandemic's impact on digital payments, the study adds relevance to the existing discourse. Furthermore, by referencing a PwC report, it provides forward-looking insights into the expected global growth of cashless payments, addressing existing research gaps by categorizing and synthesizing various cashless payment technologies. The study also offers terminology clarification, supporting a standardized understanding of digital payment-related terms and highlighting the significance of policy considerations in the transition to cashless economies. This study enriches the cashless economy literature by offering a comprehensive review, addressing gaps, and providing multifaceted insights, making it a valuable resource for researchers, policymakers, and industry stakeholders alike.

The paper is structured as follows: The subsequent section establishes the

study background by defining digital payment technology and introducing relevant terminology for the review. Additionally, the section highlights previous work that underscores the need for this review. Sections three and four delve into the findings and discussion. Section five addresses the limitations of the study and recommends future research, while section 6 concludes the paper.

This study also aimed to survey previous similar studies to identify gaps in the current literature, this is summarized in Table 1. Kabir et al. (2015) also reviewed the extensive literature (51 publications) on the topic of e-payment adoption, drawing attention to the scope, methodologies, and importance of information system models. Second, among the techniques used in earlier research to look at the global adoption of electronic payment systems, the survey approach predominated. Third, studies on the adoption of electronic payments are being led by the banking industry, as many earlier studies recruited bank customers and employees as respondents.

Table 1. Existing Literature

Reviewer	Number of Papers	Research Focus
Kabir, Saidin, Ahmi (Kabir et al., 2015)	51	Adoption of e-payment systems
Jain Babu (Jain & Babu, 2019)	6	Cashless Economy
Lissah & Kirobo (Lissah et al., 2022)	57	Cashless Economy
Routray & Khurana (Routray et al., 2019)	45	Cashless Economy
Ebeiyamba (Ebeiyamba, 2014)	19	Effect of Cashless Economy
Ibrahim & Nasir (Ibrahim P. A & Nasir Zameer, 2018)	28	Effect of Cashless Economy
Padiya & Bantwa (Padiya et al., 2018)	14	Adoption E-wallets
Chaturvedi & Singh (Chaturvedi et al., 2021)	10	Adoption of Cashless Transaction
Chauhan (Chauhan, 2017)	21	Cashless Economy
Agarwal & Khatri (Agarwal & Khatri, 2021)	10	Cashless Society
Madhav (Madhav & Sunitha, 2021)	8	Cashless Economy: Challenge
Vetrivel (VETRIVEL & RAZACK, 2020)	37	E-Wallets
Ajmera & Bhatt (Ajmera Hiteshi, 2020)	13	Adoption E-Wallets
Avula (Avula, 2017)	11	Cashless Economy

Similarly, Jain & Babu (2019) studied the key technical elements of mobile payment systems. They observed that the deliberate and necessary step of demonetization in India has moved our economy into a more intensive digital economy. Chaturvedi et al. (2021) study examined the characteristics that influence consumers to utilize digital payment methods such as; convenience, responsiveness, social impact, lifestyle, and awareness of cashless transactions. However, some issues, such as the concern over fraud, data theft, personal information, cyberspace, complexity, the need for bank accounts, high fees, and trust are some of the things that are questioned in people's minds to accept or not accept these cashless transactions.

Another review study by Lissah et al. (2022), there are many different

methods of accepting digital payments, each with its own set of advantages and disadvantages, as the study "A Review of Cashless Economy Adoption Throughout the World", demonstrates. The world is moving toward a cashless economy despite all the problems

A study by Routray et al. (2019) states that the standard of mobile wallet information significantly affects perceived utility; however, there was no discernible correlation between system and service quality and perceived utility. The study discovered that the perceived level of security was significantly influenced by the system and mobile wallet service quality. It has been demonstrated that among users of mobile wallets, perceived benefit, and perceived security have a significant impact on long-term intent to use. Chauhan (2017) argued that in a cashless economy black money is controlled by a very transparent and understandable economic structure, and this structure will aid the nation in its fight against economic terrorism. With a clean and transparent economy, everyone can benefit from development. A study by Ebeiyamba (2014) investigates the "impact of the cashless economy on micro and Small Scale businesses in Nigeria," If the required actions are not taken and the required stakeholders are taken into account with the policy, how the policy may affect them and will have a negative impact on the cashless economy policy. Ibrahim & Zameer (2018) argue that the sudden transition to a cashless economy is seriously impacting small business operations due to the reduced ability to handle digital money, yet the entrepreneurs' enthusiastic response is speeding up the shift to digital transactions. Micro and small businesses in rural locations need to migrate to a digital culture more so than medium-sized businesses that have already done so. Padiya et al. (2018) found that users of e-wallets place a high priority on features including cost, security, and privacy (fees). The biggest problems that respondents frequently encounter when using an e-wallet are the lengthy processing periods for transactions, security breaches, and payment delays. Demonetization efforts by the Indian government have significantly increased awareness of, use of, and acceptance of online payments.

A study by Agarwal & Khatri (2021) found that India is rapidly moving towards the promising scenario of a cashless society. This will lead to increased transparency of economic transactions, which in turn will increase the economy's GDP. India's cashless economy in the future will help boost the country's credibility and investment levels. Digital wallets play a pivotal and responsible role in the development of virtual India. Mobile payment services offer much greater convenience and simplicity due to the use of biometric or simple password authentication. India has enormous potential to advance toward a cashless society. Madhav & Sunitha (2021) observed that people are at ease using cashless payments, but some mindset issues keep many people from using new platforms. The results also show that the usage habits of those who have used cashless mode may expose them to security risks. Vetrivel & Razack (2020) demonstrated that the rising usage of technology products in the payments sector offers a fresh viewpoint on the banking sector and aids in better and more effective operations. Digital platforms like e-wallets are regarded as convenient for users as users can perform transactions through their mobile phones at any time and anywhere. According to Ghosh (2021) the most crucial part that the digital payment system plays is that it saves much time and is much safer

compared to dealing with Cash. People use and accept digital payment systems because of the convenience of dealing with them, and some suggest that when they get rewards or cashback, they save time and it is a faster way of transactions, etc.

A study by Hiteshi (2020) reports that all of the independent factors analyzed have a significant impact on overall customer satisfaction. components that have been identified and researched. Therefore, it can be said that it influences how they act when utilizing e-wallets. E-wallets are quickly taking over as the primary means of online payment. E-wallets are being embraced by consumers remarkably quickly, mainly due to their practicality and usability. Tech-savvy consumers are looking for a solution that will satisfy their growing desire for a seamless omnichannel retail experience. Without a doubt, e-wallets will proliferate more widely in the future. Avula (2017) noted that when preparing for a cashless economy, the government must take the required procedures and make some policy considerations. Payment systems must be secured from cyber-attacks, which represent a significant danger to cashless transactions. The government must also be able to assist the underbanked. A system that can be used for such transactions should be accessible to everyone in society. The government should take steps to improve liquidity in the system so that individuals are not inconvenienced and also aim to improve overall infrastructure so that more individuals can access the financial system and the Internet.

A cashless economy is one in which cash is no longer printed for circulation and is either prohibited or reduced in the economy, with electronic payment systems taking their place. A cashless policy's primary objective is to construct an effective payment system based on electronic transactions because it is widely known for promoting growth and development. Cashless payments include NEFT or RTGS online transfers or other payment methods that support Aadhaar-enabled transactions such as debit, credit, and smart cards, e-wallets, internet banking, UPI apps, gift cards, and prepaid cards (Chaturvedi et al., 2021).

In other words, by using computers and mobile devices, Through the Internet, financial transactions can be made anywhere (Ebeiyamba, 2014). Essentially, The measure aims to increase the efficiency of monetary policy is reducing economic inflation (Titalessy, 2020). However, a cashless economy does not indicate that there won't be any cash transactions at all; rather, it simply means that there will be less cash in society (Yaqub, 2013). To sustain and strengthen a cashless economy, the practice of making electronic payments must be encouraged.

Digital payments are financial payments transactions that occur electronically or online, without the use of physical cash. The parties involved in the transactions, namely the payer and payee, make use of a digital medium to complete the exchange, for example, using a wireless connection or other communication technology to pay for a product via a mobile device. Digital payment also encompasses internet-based electronic transactions, such as credit or debit payments conducted online or in person at a supermarket or other retail establishment (Khando et al., 2022).

As the trend of online shopping gains momentum, electronic payment methods have become increasingly popular. especially, digital payment technologies are frequently commonly used, card payment methods, such as

credit and debit cards. When used in-person, card payment can also be made through Near-Field Communication (NFC) chips, which allow two electronic devices to link up over a short distance for touch-free payment. The popularity of this mode of payment has surged due to its swiftness and convenience, and dependability, and it has proven to be particularly beneficial during the pandemic

According to NRC Corporation (2020), the ongoing pandemic has opened up the future for the banking sector, accelerated contactless transactions, and dramatically embraced digital payment technology, a trend seen around the world. Payment preferences change over time due to several factors, including new available technologies, changing global flows, and digital wallet services with a "buy now, pay later" concept, such as Google Pay, Apple Pay, PayPal, ShopeePay, OVO, DANA, LinkAja, and others. Contactless payment services such as touch payment, transferring funds to others using a debit or credit card, mobile banking, and the use of QR's (Ghosh, 2021). However, the volume of non-cash payments was the highest during and after the pandemic. The World Health Organization (WHO) promotes the use of payment methods that do not require physical contact, so implicitly cashless methods, to stop the epidemic from spreading, the current COVID-19 situation is also attempting to push many markets toward a cashless model (Accenture, 2020).

Within the context of this study, the term 'developing digital payment technologies' refers to electronic payment systems, methods, or technologies that enable transactions to be conducted digitally. These technologies are considered to be relatively new and are expected to experience long-term growth, potentially leading to significant socioeconomic effects. Therefore, the adoption of these digital payment systems is expected to have positive outcomes for the general population.

Research Methods

Okoli and Schabram have set a set of directives for executing a comprehensive review of information systems, aimed at ensuring an organized unambiguous, reproducible approach to literature review assessment (Okoli & Schabram, 2010).

The first phase of this study involved establishing its purpose, which was to collate and analyze existing empirical data on new electronic payment technologies and the issues associated with them.

As a second phase, a well-defined protocol was created to determine the qualification requirement for the review before commencing the initial search. (Third stage) The protocol comprised explicit 'inclusion and exclusion criteria, whereby articles that fulfilled the predefining criteria such as being published in journal articles or conference proceedings and being written in English were deemed suitable for reviews. Conversely, articles written in a language other than English, those that were ongoing research or 'articles in press' were excluded based on criteria detailed in Table 2. Empirical articles were exclusively included in this research, while conceptual articles, such as literature reviews and book chapters, were excluded. However, insight gleaned from such articles was appraised within the theoretical context of the study.

The third phase of the study in (Table 2) below involved conducting a literature search and an initial screening of papers. This step entailed utilizing

specific keywords and databases, as well as defining delimitation criteria based on the guidelines set out in Table 3 below. Table 3 illustrates the total count of articles obtained from the search process. The search was performed in October 2022, utilizing two prominent databases ‘Emerald and ‘Scopus’ and employing the keyword listed in Table 3 to search through the articles i.e. abstract, keyword, and titles. As mentioned in (the stage 2 protocol), solely peer-reviewed academic articles were published in journals and conferences without any time limitations. Due to the ever-changing landscape of digital payment technologies in response to current challenges, the search was not restricted by dates, as there was insufficient relevant empirical research observed in this area, despite the ongoing research in this field.

Table 2. Inclusion and Exclusion Criteria

Selection Criteria	Eligibility Criteria
Inclusion	This study only included empirical research articles that were peer-reviewed, conference proceedings, and review papers written in English. There were no restrictions on the publication dates of the articles. Before downloading articles, and while screening based on the article titles
Exclusion	Articles that were not written in English, articles without abstracts, and articles that were in the press were excluded. Ineligible articles for this study included literature review articles that were not primary sources and for which the full text was not accessible. Additionally, during the full-text screening process, concept papers and book chapters were excluded.

Table 3. The search and selection process

Keyword Searched	Database	Delimitation Criteria	No. of Papers
“cashless economy” AND “digital payment system” OR “digital payment”	Emerald Insight	Publication stage: Final Publication years: No time-frame restrictions Document types: (Journal Articles and proceeding reviewed papers) Language: (English)	447
“digital payment” AND risks OR “cashless economy ”AND challenges	Scopus	Publication stage: Final Publication years: No time-frame restrictions Document types: (Journal Articles and proceeding reviewed papers)	217

	Language: (English)	
Total		664
Subtracted "Papers with no full-text access"		-571
Subtracted "Duplications"		-4
Total articles retrieved through the search process (downloaded for reading		89

Initially, the search was carried out on the Emerald database, acknowledged for its extensive collection of peer-reviewed articles containing super-quality content. Subsequently, a search was conducted on the Scopus database which, encompasses more extensive journal articles as compared to Emerald. Initially, a total of 89 articles were retrieved through the search process. Subsequently, we compiled articles from both databases and identified four duplicate articles and 571 articles lacking full-text access. Upon removing the duplicate articles and articles lacking full-text access, a total of 89 articles were included in the study, as presented in Table 3.

The study employs the meta-analysis methodology. Meta-analysis in statistics refers to the statistical technique used for combining and analysing data from multiple independent studies on a particular topic (Kabir et al., 2015; Glass, 1976).

Keywords used: acceptance of a cashless economy, variables influencing adoption, literature review on a cashless economy, electronic payments, mobile payments, and a cashless society. Thus, a total of 188 academic papers were found after the search. The breadth, contributing reasons, and IP model changes were among them. Due to Scopus's high accuracy, precision, and comprehensiveness in calculating journal impact, its use is justified (Kabir et al., 2015; Walters, 2009; and Harzing & Wal, 2009).

Table 4. Scope-demographic

Continent	Number of Papers
Africa	10
Asia	34
Middle East	7
Europe and American	0
Total	51

Table 4 above shows that almost 50% of the empirical research on the implementation of a cashless economy, including electronic payments and mobile payments, is carried out in African countries. In addition, there are nearly as many studies in Asia as there are in Africa. However, nations in Europe and America do not have opportunities for research because their progress in the absorption of technology is far from the progress of less developed countries.

Result and Discussions

Extensive research efforts have been dedicated to examining the implementation of electronic payment systems, encompassing a diverse spectrum of both developed and developing nations on a global scale. This comprehensive exploration has transcended geographical boundaries and has yielded a rich body of knowledge that paints a multifaceted picture of how electronic payment systems are being integrated worldwide. The key to comprehending the nuanced landscape of electronic payment adoption lies in a discerning analysis that takes into account the geographical context of each study. A myriad of scholarly investigations, conducted by eminent researchers (Gronbach, 2021; Hassan & Lee, 2021; Serrao & Vuuren, 2019; Amofah & Chai, 2022; Rootman & Krüger, 2020; Chingapi & Steyn, 2022; Coffie & Zhao, 2021; and Nwakoby et al., 2020) have collectively contributed to our understanding of this dynamic field. These studies serve as essential building blocks for constructing a comprehensive narrative that sheds light on the unique trajectories and challenges encountered by various nations in their pursuit of electronic payment system implementation.

With the exception of the insightful work conducted by Chingapi & Steyn (2022), which delved into the intricate realm of electronic payment systems within the context of small and medium-sized businesses and banking organizations (SMEs), and the noteworthy study undertaken by Coffie & Zhao (2021), which meticulously examined the landscape of mobile payments vis-à-vis traditional bank savings accounts, it becomes evident that the focal point of the majority of research endeavours in African nations has revolved around the assessment of the acceptability and viability of electronic deposit methods in the milieu of developing economies. This pronounced concentration unequivocally underscores the relatively nascent nature of electronic payment systems within these regions, thus accentuating the need for a more profound and discerning exploration. Consequently, a clarion call emerges for further scholarly inquiry aimed at elucidating strategies through which governments, financial institutions, and other pertinent stakeholders can effectively encourage the adoption and implementation of electronic payment platforms for various transactional and financial services. In parallel, it becomes imperative for future research endeavours to delve into the intricacies of consumer preferences and aspirations pertaining to mobile payments, online transactions, and point of sale (POS) mechanisms within the broader context of payment transactions, as aptly indicated by studies such as those conducted by Mohammed et al. (2022) and Nwakoby et al. (2020). Such an interdisciplinary approach is essential in shaping a comprehensive understanding of the multifaceted landscape of electronic payment systems in these developing economies.

Furthermore, it is imperative to highlight that our review also encompassed a comprehensive examination of studies conducted within the dynamic landscape of Asian countries. This extensive compilation featured a plethora of scholarly contributions, including notable works such as (Lai et al., 2019; Rabe & Kostka, 2022; Kulkarni & Varma 2021; Mathur, 2021; Ahmad et al., 2021; Subawa et al., 2021; Givelyn et al., 2022; Behera & Balaji, 2019; Sari, 2021; Raya & Vargas, 2022; Sharma & Agarwal, 2018; Kumar & Gupta, 2020; Kadar et al., 2019; Mumtaza et al., 2020; Lai & Liew, 2021; Hastuti & Jauhari, 2021;

Balakrishnan & Shuib, 2021; Do, 2020; Ong & Chong, 2022; Jawad et al., 2022; Yakean, 2020; Manikandan & Jayakodi, 2017; M, 2022; Deepa, 2020; Sonal, 2021; Pande, 2019; Ishak, 2020; Ayu & Suhaimi, 2022; Krishnan et al., 2019; Wong et al., 2020; Deep, 2022; Kock Lim et al., 2021; Ali et al., 2019; and Namahoot & Jantasri, 2022). In stark contrast to research endeavours in developing African nations, these studies predominantly converge on exploring the profound impact of the transition from traditional cash-based economies to cashless payment systems in Asian nations. This collective body of research unequivocally underscores the widespread embrace and utilization of cashless payment methods within the Asian landscape. Moreover, it provides compelling evidence that the global shift from cash to electronic payments, ultimately leading towards the realization of a cashless economy, is rapidly gaining momentum and transcending geographical boundaries. These findings illuminate the transformative nature of payment systems in today's interconnected world.

Our comprehensive review extended its scope to encompass studies conducted in the Middle East, featuring notable contributions from researchers such as Moyer, 2020; Kulisz et al., 2021; Rochemont, 2020; Karbozova & Yestimessova, 2021; Butini, 2020; Srouji, 2020; and Cohen et al., 2020). These investigations collectively shed light on the intricacies of electronic payment systems within the Middle Eastern context, illuminating the present challenges, potential opportunities, and the latest advancements that characterize this vital sector crucial for economic growth.

In contrast, our exploration of developed countries, such as the United States and Europe, revealed a scarcity of pertinent studies. This scarcity is indicative of the varying dynamics surrounding electronic payments in these regions, where traditional cash-based transactions and digital alternatives coexist. Intriguingly, the continued prominence of cash is underscored by NRC Corporation (2020), particularly in the Latin American context. Here, the enduring role of cash is attributed to a prevailing lack of trust in banks and financial institutions, which has left many individuals without bank accounts. This unique circumstance has spurred businesses to innovate by developing alternative payment solutions that cater to customers who prefer cash payments for online purchases. Notably, while cash remains indispensable in certain European locales, it's important to acknowledge that a significant portion of the population still remains unbanked, reflecting the nuanced global landscape of payment methods and financial accessibility.

The transition to a cashless economy is not without its challenges. One of the main concerns is that it could exacerbate existing inequalities, especially for those without access to digital payment methods. Additionally, there are privacy and security concerns associated with digital payments, such as the risk of fraud or data breaches.

In addition, the shift to a cashless economy could have significant implications for governments, as it would require changes in tax policies and regulations to deal with the reduction in cash transactions. This may be particularly challenging for countries that still use cash as their primary medium of exchange.

Overall, the implementation of a cashless economy is a complex and multi-faceted issue that requires careful consideration and analysis. While there are

many potential benefits of a cashless economy, it is important to address the challenges and ensure that the transition is as smooth and fair as possible. This may require investment in infrastructure and education to ensure that everyone has access to digital payment methods, as well as policies and regulations to protect consumer privacy and security.

The Boston Consulting Group estimates that to achieve a cashless economy, monetary authorities must continue to overcome barriers to cashless adoption, such as high transaction costs, lack of customer-facing solutions, lack of coordination between government agencies, and unreliable trust. The adequacy of electronic payments, and the lack of supporting infrastructure, lead to a weak infrastructure of the national payment system.

Another point of view holding back the cashless era is that it is a severe threat to our freedom. This will result in an economic singularity where technology will control not just how people behave as consumers but also how people behave as people. The development of algorithms that can rapidly view financial transactions and identify their nature and location is a result of technological advancements. There will be no shortage of classified information available to the government. The second, more severe issue also affects low-income groups, everyday breadwinners, and street vendors. They only deal in Cash, and digital transactions are just a pipe dream for them (Gaba et al., 2018).

A cashless economy benefits society in many ways, including reducing the shadow economy by increasing transparency or lowering transaction costs (Raya & Vargas, 2022). Because less cash is used, there is less tax evasion, and governments and central banks find it more convenient to deal with economic crises in the presence of illegal immigration and crime. The European Central Bank claims that non-cash instruments mean permission from the bank to transfer money (whether paper, such as checks, or digital (using cards or cryptocurrencies, for example). Both monetary and non-monetary techniques have benefits and drawbacks. On the one hand, notes can be disseminated widely, anonymously, securely, and efficiently. However, since transfers are rapid and straightforward to track for tax collection or law enforcement, cashless techniques are better suited for large transactions and lower variable costs.

Furthermore, the investment configuration supports growth as well as regulation and provides investment direction as a strategy to support development. These strategies include lowering real interest rates which are still relatively high for Indian companies, optimizing investments in a cashless economy that provide more returns and are export-oriented, product efficiency through the development of alternative and low-cost energy sources, human resource development and labor market reform, and digitalization to increase efficiency. and optimization of assets and resources. Through this, it will then provide direction to non-infrastructure investment as a form of equity and guarantee the basis for the previous pillars.

A cashless society affects the entire society in both favourable and unfavourable ways. First, by guaranteeing the confidentiality of transactions, Cash encourages the hidden economy and tax avoidance (Goczek & Witkowski, 2016). According to Immordino & Russo (2018), one-tenth of the additional tax per person annually reduces the gap between value-added tax and gross domestic product by 8-20%. In addition, the use of cards for cash withdrawal has

a positive effect on tax avoidance. To combat fraud and tax evasion, the government will be able to track transactions once a cashless society becomes prevalent easily. Therefore, the non-monetary economy, while helping to contain the negative economy, will not rule it. The cashless economy works to empower financial institutions by enabling them to generate and collect valuable data for companies and governments, and the cashless economy can influence shopping habits (Raya & Vargas, 2022). According to Chatterjee & Rose (2012), we find that the use of mobile payment cards brings benefits to the product.

Conclusion

This study utilized Okoli and Schabram's systematic literature review method to evaluate the quality of literature and reviewed 89 final articles. From the results of the review, the cashless payment economy was categorized into four modes of payment methods: card payment, electronic payment, and mobile payment. This classification provides an up-to-date overview of digital payment systems and can assist future researchers in obtaining quality references for research in the field. The study also identified technical, social, economic, legal, and literacy challenges associated with digital payment technology. By categorizing these challenges into key themes, practitioners such as bank directors and policymakers can enhance their understanding and knowledge of digital payment technology issues in different cultural settings.

The study highlights the challenges faced by a cashless economy, including high transaction costs, lack of consumer-friendly solutions, lack of coordination between government agencies, and unreliable trust. Electronic payments and mobile payments require adequate supporting infrastructure to establish a robust national payment system infrastructure. This study provides theoretical and practical direction, offering insights for future researchers in the field of digital payments, complementing previous literature reviews on cashless payments, highlighting digital payment challenges, and providing a foundation for building a healthy cashless payment ecosystem.

The study reviewed existing electronic payments and mobile payments worldwide, emphasizing previous research conducted in developing nations in Africa, Asia, and the Middle East. Conversely, no further research has been conducted on Europe and the Americas, where cash is still significant, and a relatively large number of people do not have bank accounts. In some parts of Europe, 33% of Eastern Europeans do not have access to regular banking services. Overall, this study provides a comprehensive overview of the challenges and trends associated with digital payment technologies and cashless economies.

Although this study contributes to the understanding of digital payment technologies and challenges in the cashless economy, some limitations need to be acknowledged. Firstly, the articles used in this study were obtained only from two databases - 'Emerald Insight' and Scopus - and although they are comprehensive, there may be other relevant studies available in other databases. Thus, future reviews should consider expanding the search to additional databases. Secondly, since this review relied solely on empirical studies, the sample size may be small and the findings may not be generalizable. Thus, future reviews may consider incorporating studies using other research methods, such

as case studies, interviews, experiments, and observations. Additionally, this review did not include literature reviews and secondary data sources, which could provide valuable insights. Future research could benefit from including these types of publications to enhance the knowledge and value of the review.

References

- Accenture. (2020). E-payments Need a People-First Approach.
- Agarwal, M., & Khatri, M. (2021). Moving Towards Cashless Society – Literature Review. 10(2), 4419–4428.
- Ahmad, K., Arifuzzaman, A., Al Mamun, A., & Md Khaled Bin Oalid, J. (2021). Impact of consumer's security, benefits and usefulness towards cashless transaction within Malaysian university student. *International Journal of Research in Business and Social Science* (2147- 4478), 10(2), 238–250. <https://doi.org/10.20525/ijrbs.v10i2.1065>
- Ajmera Hiteshi, D. V. B. (2020). “ Factors affecting the consumer ’ s adoption of E -wallets in India : An empirical study ”. *Alochana Chakra Journal*, IX(VI), 1081–1093.
- Amofah, D. O., & Chai, J. (2022). Sustaining Consumer E-Commerce Adoption in Sub-Saharan Africa: Do Trust and Payment Method Matter? *Sustainability*, 14(14), 8466. <https://doi.org/10.3390/su14148466>
- Avula, S. (2017). The Cashless Economy in India : Prospects and Challenges. *International Journal of Research in Management Studies*, 2(9), 14–19.
- Ayu, N., & Suhaimi, N. (2022). DETERMINING THE USE OF CASHLESS PAYMENT METHODS AND THE CONTRIBUTING FACTORS : HOTEL GUESTS ’ PERSPECTIVES IN MALAYSIA. 198–208. <https://doi.org/10.55573/IJAFB.074118>
- Balakrishnan, V., & Shuib, N. L. M. (2021). Drivers and inhibitors for digital payment adoption using the Cashless Society Readiness-Adoption model in Malaysia. *Technology in Society*, 65(March), 101554. <https://doi.org/10.1016/j.techsoc.2021.101554>
- Behera, S., & Balaji, P. (2019). CASHLESS ECONOMY: THE DREAM OF DIGITAL INDIA CASHLESS ECONOMY: THE DREAM OF DIGITAL INDIA Introduction. *International Journal of Management*, IX(April 2019).
- Butini, A. (2020). From barter to cashless societies: how the worldwide economy benefits the implementation of e-payments. 1–53.
- Chatterjee, P., & Rose, R. L. (2012). Do payment mechanisms change the way consumers perceive products? *Journal of Consumer Research*, 38(6), 1129–1139. <https://doi.org/10.1086/661730>
- Chaturvedi, D. D., Singh, H., & Chaturvedi, S. (2021). Factors Affecting the Adoption of Cashless Transaction in India: an Empirical Study. *Journal Of Archaeology Of Egypt/Egyptology*, 18(10), 3533.
- Chauhan, A. (2017). Cashless Economy: Opportunities and Challenges in India. *Ramanujan International Journal of Business and Research*, 2(1), 187–194. <https://doi.org/10.51245/rijbr.v2i1.2017.124>
- Chingapi, A., & Steyn, A. A. (2022). SMEs in South Africa: The Era of Adopting Mobile Payment Solutions. *Lecture Notes in Networks and Systems*, 235, 429–447. https://doi.org/10.1007/978-981-16-2377-6_41
- Coffie, C. P. K., & Zhao, H. (2021). Semi-systematic review of the perceived cost

- of mobile payment in sub-Saharan Africa. *Perspectives on Global Development and Technology*, 20(3), 205–224. <https://doi.org/10.1163/15691497-12341592>
- Cohen, N., Rubinchik, A., & Shami, L. (2020). Towards a cashless economy: Economic and socio-political implications. *European Journal of Political Economy*, 61, 101820. <https://doi.org/10.1016/j.ejpoleco.2019.101820>
- 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>
- Deep, N. (2022). Cashless economy: The impact of demonetization on small and medium businesses. *ACADEMICIA: An International Multidisciplinary Research Journal*, 12(6), 378–386. <https://doi.org/10.5958/2249-7137.2022.00681.4>
- Deepa, D. . & L. V. (2020). The Reality of Cashless Economy in India. *JAC: A Journal Of Composition Theory*, 13, XIII(I), 86–92.
- Do, V. A. (2020). Market Research on Digital Payment Methods in Vietnam-The Opportunities and Challenges of Vietnam Going Cashless. February.
- Dr. Swati Kulkarni, Dr. Aparna J Varma, D. R. P. V. . (2021). A Literature Study Of Consumer Perception Towards Digital Payment Mode In India. *Psychology and Education Journal*, 58(1), 3304–3319. <https://doi.org/10.17762/pae.v58i1.1270>
- Ebeiyamba, O. J. (2014). Effect of Cashless Economy on Micro and Small Scale Businesses in Nigeria. *European Journal of Business and Management*, 6(1), 101–106.
- Gaba, M., Nagpal, M., & College, A. P. G. (2018). Cashless Economy: Problems and Prospects. *International Journal of Engineering Research & Technology*, 5(11). <https://doi.org/10.17577/IJERTCONV5IS11054>
- Ghosh, G. (2021). Adoption of Digital Payment System by Consumer: A review of Literature. *International Journal of Creative Research Thoughts*, 9(2), 2320–2882.
- Givelyn, I., Rohima, S., Mardalena, M., & Widyanata, F. (2022). The Impact of Cashless Payment on Indonesian Economy: Before and During Covid-19 Pandemic. *Jurnal Ekonomi Pembangunan*, 20(1), 89–104. <https://doi.org/10.29259/jep.v20i1.17898>
- Glass, G. V. (1976). Primary, Secondary, and Meta-Analysis of Research. 3–8.
- Goczek, Ł., & Witkowski, B. (2016). Determinants of card payments. *Applied Economics*, 48(16), 1530–1543. <https://doi.org/10.1080/00036846.2015.1102846>
- Gronbach, L. (2021). Mobile payment and application systems for COVID-19 emergency cash transfers in Africa. February, 5000.
- Harzing, A. W., & Wal, R. Van Der. (2009). A google scholar h-index for journals: An alternative metric to measure journal impact in economics and business. *Journal of the American Society for Information Science and Technology*, 60(1), 41–46. <https://doi.org/10.1002/asi.20953>
- Hassan, M. M., & Lee, G. (2021). Online Payment Options and Consumer Trust: Determinants of E-Commerce in Africa. *International Journal of Entrepreneurial Knowledge*, 9(2), 1–13.

- <https://doi.org/10.37335/ijek.v9i2.121>
- Hastuti, I. S., & Jauhari, A. K. (2021). Middle Economic Growth Towards To Development of E-Commerce in Southeast Asia. *Journal of Economic Empowerment Strategy (JEES)*, 4(1), 1–6.
- Ibrahim P. A., & Nasir Zameer. (2018). Effect of Cashless Economy on Micro, Small and Medium Enterprises (MSMEs): A Study from Indian Perspective. *Journal of Entrepreneurship & Management*, 7(1).
- Immordino, G., & Russo, F. F. (2018). Cashless payments and tax evasion. *European Journal of Political Economy*, 55, 36–43. <https://doi.org/10.1016/j.ejpoleco.2017.11.001>
- Ishak, N. (2020). Overview of Cashless Payment in Malaysia. *International Journal of Accounting, Finance and Business (IJAFB)*, 5(27), 11–18.
- Jain, J., & Dr. Ramesh Chandra Babu T. (2019). IMPACT OF DEMONETIZATION ON CASHLESS ECONOMY WITH REFERENCE TO INDIA. *SSRN Electronic Journal*, 6(1), 1298–1303. <https://doi.org/10.2139/ssrn.3298002>
- Jawad, A. I., Parvin, T., & Hosain, M. S. (2022). Intention to adopt mobile-based online payment platforms in three Asian countries: an application of the extended Technology Acceptance Model. *Journal of Contemporary Marketing Science*, 5(1), 92–113. <https://doi.org/10.1108/jcmars-08-2021-0030>
- Kabir, M. A., Saidin, S. Z., & Ahmi, A. (2015). Adoption of e-Payment Systems: A Review of Literature. *Proceedings of the International Conference on E-Commerce (ICoEC) 2015*, May 2016, 112–120.
- Kadar, H. H. Bin, Sameon, S. S. B., Din, M. B. M., & Rafee, P. 'Amirah B. A. (2019). Malaysia Towards Cashless Society. *Lecture Notes in Electrical Engineering*, 565, 34–42. https://doi.org/10.1007/978-3-030-20717-5_5
- Karbozova, A., & Yestimessova, D. (2021). Higher School of Economics How cashless operations integrated into Consumer lifestyle in Kazakhstan as a new habit.
- Khando, K., Islam, M. S., & Gao, S. (2022). The Emerging Technologies of Digital Payments and Associated Challenges: A Systematic Literature Review. *Future Internet* 2023, Vol. 15, Page 21, 15(1), 21. <https://doi.org/10.3390/FI15010021>
- Kock Lim, T., Zhi Xin, L., & Yin Mei, K. (2021). Factor Influencing Consumer's Intention to Use E-wallets. *Asian Journal of Research in Business and Management*, 3(2), 140–146.
- Krishnan, N. K., Johri, A., Chandrasekaran, R., & Pal, J. (2019). Cashing out: Digital payments and resilience post-demonetization. *ACM International Conference Proceeding Series*. <https://doi.org/10.1145/3287098.3287103>
- Kulisz, M., Bojanowska, A., & Toborek, K. (2021). Consumer's Behaviour Regarding Cashless Payments during the Covid-19 Pandemic. *European Research Studies Journal*, XXIV(Special Issue 2), 278–290. <https://doi.org/10.35808/ersj/2224>
- Kumar, M., & Gupta, S. (2020). Security perception of e-banking users in India: An analytical hierarchy process. *Banks and Bank Systems*, 15(1), 11–20. [https://doi.org/10.21511/bbs.15\(1\).2020.02](https://doi.org/10.21511/bbs.15(1).2020.02)
- Lai, P. C., & Liew, E. J. Y. (2021). Towards a Cashless Society: The Effects of

- Perceived Convenience and Security on Gamified Mobile Payment Platform Adoption. *Australasian Journal of Information Systems*, 25, 1–25. <https://doi.org/10.3127/AJIS.V25I0.2809>
- Lai, P. C., Toh, E. B. H., & Alkhrabsheh, A. A. (2019). Empirical Study of Single Platform E-Payment in South East Asia. January, 252–278. <https://doi.org/10.4018/978-1-5225-9697-4.ch015>
- Lissah, J., Kirobo, A., & Govella, M. M. (2022). Adoption of Cashless Economy in the World: A Review. *IOSR Journal of Economics and Finance*, 13(2), 37–48. <https://doi.org/10.9790/5933-1302083748>
- M, P. (2022). A Study on Consumer Perception Towards Digital Payment. *East Asian Journal of Multidisciplinary Research*, 1(6), 1033–1044. <https://doi.org/10.55927/eajmr.v1i6.688>
- Madhav, V., & Sunitha, G. (2021). Cashless Economy: A Challenging Challenge to India; Pros and Cons. *Aut Aut Research Journal*, 12(3), 291–299.
- Manikandan, S., & Jayakodi, J. M. (2017). an Emprical Study on Consumers Adoption of Mobile Wallet With Special Reference To Chennai City. *International Journal of Research -GRANTHAALAYAH*, 5(5), 107–115. <https://doi.org/10.29121/granthaalayah.v5.i5.2017.1843>
- MATHUR, K. (2021). Adoption of Cashless Society By Singapore Adoption of Cashless Society. *International Journal of Scientific & Engineering Research*, 12(5), 65–102.
- Mohammed, Z., Ibrahim, U. A., & Muritala, T. A. (2022). Effect of Payments System Innovations on the Financial Performance of Commercial Banks in Nigeria. *Journal of Service Science and Management*, 15(01), 35–53. <https://doi.org/10.4236/jssm.2022.151004>
- Mohanad Faeq Ali, Norharyati Harum, Nur Azman Abu, Mohammed Saad Talib, Mohamed Doheir, M. N. A.-M. (2019). Impact of Cashless Society on the Economic Growth in Malaysia. *Religacion*, 4(17), 12–24.
- Moyer, L. (2020). The Myth Of The Cashless Society. *Forbes*, December, 10–11.
- Mumtaza, Q. M. H., Nabillah, S. I., Amaliya, S., Rosabella, Y., & Hammad, J. A. (2020). Worldwide mobile wallet: a futuristic cashless system. *Bulletin of Social Informatics Theory and Application*, 4(2), 70–75. <https://doi.org/10.31763/businta.v4i2.204>
- Namahoot, K. S., & Jantasri, V. (2022). Integration of UTAUT model in Thailand cashless payment system adoption: the mediating role of perceived risk and trust. *Journal of Science and Technology Policy Management*. <https://doi.org/10.1108/JSTPM-07-2020-0102>
- NRC Corporation. (2020). From cash register to cashless_ the evolution of POS & payment systems.
- Nwakoby, C., Chukwu, K. O., & Oghenetega, E. O. (2020). Effect of Cashless Policy on Deposit Money Banks Profitability in Nigeria. *Asian Journal of Economics, Business and Accounting*, August, 48–63. <https://doi.org/10.9734/ajeba/2020/v19i430312>
- Okoli, C., & Schabram, K. (2010). A Guide to Conducting a Systematic Literature Review of Information Systems Research. *SSRN Electronic Journal*. <https://doi.org/10.2139/SSRN.1954824>
- Ong, H. B., & Chong, L. L. (2022). The effect of cashless payments on the internet and mobile banking. *Journal of Financial Services Marketing*, 0123456789,

- 2011–2020. <https://doi.org/10.1057/s41264-022-00145-0>
- Padiya, J., Bantwa, A., & Pacific Business Review International. (2018). Adoption of E-wallets: A Post Demonetisation Study in Ahmedabad City. Pacific Business Review International, November.
- Pande, J. (2019). Cashless Transaction – Mobile Transaction. SSRN Electronic Journal, 675–679. <https://doi.org/10.2139/ssrn.3309289>
- PwC. (2021). Navigating the payments matrix: Charting a course amid evolution and revolution. 1–30.
- Rabe, W., & Kostka, G. (2022). China's growing digital reach: explaining citizens' high approval rates of fintech investments in Southeast Asia. Review of International Political Economy, 0(0), 1–27. <https://doi.org/10.1080/09692290.2022.2044884>
- Raya, J. M., & Vargas, C. (2022). How to become a cashless economy and what are the determinants of eliminating cash. Journal of Applied Economics, 25(1), 543–562. <https://doi.org/10.1080/15140326.2022.2052000>
- Rochemont, S. (2020). A Cashless Society in 2019 The Cashless World in Motion review By Sabrina Rochemont. February.
- Rootman, C., & Krüger, J. (2020). Increasing Customer Adoption of the Mobile Payment Technology Zapper in South Africa. Journal of African Business, 21(4), 509–528. <https://doi.org/10.1080/15228916.2020.1790915>
- Routray, S., Khurana, R., Payal, R., & Gupta, R. (2019). A Move towards Cashless Economy: A Case of Continuous Usage of Mobile Wallets in India. Theoretical Economics Letters, 09(04), 1152–1166. <https://doi.org/10.4236/tel.2019.94074>
- Sari, N. P. (2021). Keberadaan Uang Elektronik Pada Kehidupan Masyarakat. Embiss Jurnal Ekonomi, Manajemen, Bisnis Dan Sosial, 1(3), 271–278.
- Serrao, J., & Jansen Van Vuuren, L. (2019). A Cashless Society in Africa Spotlight on the South African and Zimbabwean environments. February, 47.
- Sharma, A., & Agarwal, H. (2018). Study Of Recent Developments Related To Cashless Commerce In India. Journal of Commerce & Trade, 13(2), 66. <https://doi.org/10.26703/jct.v13i2-10>
- Sonal, B. (2021). Adoption and Usage of Mobile Payment Systems by Consumers and Merchants.
- Srouji, J. (2020). Digital Payments, the Cashless Economy, and Financial Inclusion in the United Arab Emirates: Why Is Everyone Still Transacting in Cash? Journal of Risk and Financial Management, 13(11), 260. <https://doi.org/10.3390/jrfm13110260>
- Subawa, N. S., Dewi, N. K. A., & Gama, A. W. O. (2021). Differences of Gender Perception in Adopting Cashless Transaction Using Technology Acceptance Model. Journal of Asian Finance, Economics and Business, 8(2), 617–624. <https://doi.org/10.13106/jafeb.2021.vol8.no2.0617>
- Titalessy, P. B. (2020). Cashless Payments and its Impact on Inflation. Article in Advances in Social Sciences Research Journal, 7(25). <https://doi.org/10.14738/assrj.79.9074>
- VETRIVEL, & RAZACK, B. I. (2020). Whether E-Wallets are really a Catalyst towards Expedition of Cashless Economy ? : An Empirical Investigation in the Aftermath of Demonetization. IOSR Journal of Business and Management, February, 50–55.

- Walters, W. H. (2009). Google Scholar Search Performance: Comparative Recall and Precision. 9(1), 5–24.
- Wong, T. L., Lau, W. Y., & Yip, T. M. (2020). Cashless Payments and Economic Growth: Evidence from Selected OECD Countries. *Journal of Central Banking Theory and Practice*, 9(July), 189–213. <https://doi.org/10.2478/jcbtp-2020-0028>
- YAKEAN, S. (2020). Advantages and Disadvantages of a Cashless System in Thailand during the COVID-19 Pandemic. *Journal of Asian Finance, Economics and Business*, 7(12), 385–388. <https://doi.org/10.13106/JAFEB.2020.VOL7.NO12.385>
- Yaqub, J. O. (2013). The Cashless Policy in Nigeria : Prospects and Challenges. *Academia.Edu*, 3(3), 200–212. <https://www.academia.edu/download/54565721/20.pdf>