



Mobile Money Payment System: Is Ghana on the Path Toward a Cash-lite Agenda

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How to Cite

Isaac Appiah Amankwa, Joseph Amo, and Bella Sima Mofaw (2023). **Mobile money payment system: Is Ghana on the path toward a cash-lite agenda?** *International Journal of Multidisciplinary Studies and Innovative Research*, 11(4), 1574-1587. DOI: 10.53075/Ijmsirq/098763874485737

Abstract: There has been a significant increase in mobile money accounts and transactions in recent years due to the interoperability of mobile money platforms. The literature on mobile money still needs to highlight one area that needs attention: its role in realizing the cash-lite agenda. This study investigated whether a mobile money payment system could be the panacea for achieving the cash-lite agenda in Ghana. The study adopted a mixed methods research design and used both quantitative and qualitative data collection and analysis approaches. Three hundred and fifty-one (351) respondents responded to the questionnaires, while data collection involved questionnaires and structured interviews. The questionnaires had three parts: Part A consisted of respondents' bio-data; Part B covered their acceptance and usage of cashless instruments; and Part C addressed the challenges they faced while using such tools. The questions were mostly 5-point Likert scale-type questions. Data were analyzed quantitatively using descriptive and inferential statistical analysis tools with the help of the Statistical Package for Social Sciences (SPSS) software. The findings showed that the top three cashless instruments used were mobile money, the Visa or Master Card, and the Automated Teller Machine (ATM). Among these, mobile money was the most widely used. Also, for e-levy, inadequate infrastructure, and frequency of e-payments were some of the factors that affected cashless instruments usage. Additionally, the study found that most respondents were concerned about the illiteracy rate, identity theft or fraud, unreliable

networks, cyber security, and privacy issues. Among other things, it is recommended that there should be massive investments in infrastructure by key stakeholders such as government, banks, and non-bank operators to ensure faster and cheaper internet connectivity and improved network availability, quality, and security.

Keywords: Cashless economy, cash-lite agenda, mobile money, payment systems, interoperability, e-levy, cashless instruments

1. INTRODUCTION

The introduction of mobile money payment systems has brought about a profound transformation in the financial landscape of numerous developing countries. This innovative approach to handling financial transactions has not only streamlined money transfers but has also paved the way for unprecedented financial inclusion, particularly in regions like Africa. The evolution of mobile money has been a testament to its adaptability and its ability to address the financial needs of a broader segment of the population. Initially conceived as a convenient way to facilitate the transfer of money between individuals, mobile money has transcended its original purpose. It has transitioned into a powerful tool for bridging the financial gap and extending banking services to those who were previously excluded from the traditional banking system. This shift in focus has been crucial in ensuring that financial services are more accessible to a wider range of people, making it a game-changer in the development of financial ecosystems in emerging economies. As Suri noted in 2017, the impact of mobile money has been substantial. It has reached and benefitted a significant proportion of the population in developing countries. By offering a simple and user-friendly way to store and transfer money using mobile wallets, it has democratized access to financial services, particularly for those in remote or underserved areas.

Bourreau and Hoernig's definition from 2016 helps us understand that mobile money represents a virtual account hosted by mobile telecommunication operators. These operators have become instrumental in facilitating financial transactions and providing a platform for users to manage their funds conveniently through their mobile devices. This symbiotic relationship between mobile operators and financial services has been instrumental in expanding access to financial services in regions where traditional banking infrastructure is limited. The evolution of mobile money payment systems has transcended its original purpose of facilitating money transfers. It has become a catalyst for financial inclusion, extending banking services to those who were previously underserved by the traditional banking sector. This transformation, as highlighted by Suri in 2017 and defined by Bourreau and Hoernig in 2016, is a testament to the power of innovation and technology in reshaping the financial landscape in developing countries.

In Ghana, beginning modestly in 2009, the mobile money sector currently has income equivalent to the total deposits lodged in the country's commercial banks (Ghana Banking Survey Report, 2016). Overall, the payment systems industry witnessed a significant increase in digital payments in 2021. Mobile money transaction volume increased by 47.1% from 2020 to 2021, reaching 4.25 billion. Likewise, from GHC571.80 billion in 2020, the overall transaction value rose to GHC978.32 billion in 2021 (Bank of Ghana Payment System Oversight Annual Report, 2021). By June 2023, total mobile money transactions had reached GHC859 billion, representing an increase of 78% over the 2022 value of GHC479 during the same period (Agyapong, 2023).

The mobile money literature has focused on diverse areas, including mobile money, financial inclusion, poverty reduction, mobile money interoperability, government policy effect, and financial security control. Empirical evidence shows that mobile money facilitates financial inclusion, ensures better network delivery, and reduces transaction costs (Donovan, 2012;

Avom *et al.*, 2023; Brunnermeier *et al.*, 2023). Kelly and Palaniappan (2022) also noted government policy and financial security contribute to users' decision to use mobile money.

However, the potential of mobile money and its subsequent interoperability in realizing the cash-lite (cashless economy) agenda and the readiness of the populace to embrace it is yet to be explored. Achieving this objective means that mobile money should be generally accepted and used for day-to-day transactions. Nevertheless, the extent to which it is received and used at various payment points, such as supermarkets, and fuel stations, must be discovered. This study sought to address this research gap.

Bank of Ghana Annual Report and Financial Statement (2020) revealed that it cost Ghana GH¢306,227,000 and GH¢337,508,000 to print cedi notes in 2019 and 2020, respectively, representing an increase of 10.2% between 2019 and 2020. To reduce this cost, the Bank of Ghana has resorted to replacing the GH¢2.00 and GH¢1.00 notes with coins. Does this mean the time has come to operationalize the cashless economy agenda fully? Is the population ready to accept and use these payment systems in daily transactions at major payment points? What factors determine the acceptability and use of cashless instruments? What are the perceived challenges of using these cashless instruments, particularly the mobile payment system? This study sought to explore whether the mobile money payment system and its subsequent interoperability could be a panacea for achieving the cashless economy agenda in Ghana using the Sunyani municipality as the case.

2. LITERATURE REVIEW

2.1 A Cashless Economy

A cashless system involves significant changes in how money is exchanged for goods and services. Standard theories used often characterize potential consumer behavior about patterns of new technology and innovation uptake and acceptance include the Theory of Reasoned Action (TRA) (Fishbein & Azjen, 1975), the Technology Acceptance Model (TAM) (Davis, 1989), the Theory of Planned Behaviour (TPB) (Ajzen, 1991), the Innovation Diffusion Theory (Rogers, 1995) and the Technology Readiness (TR) (Parasuraman & Colby, 2001). These theories are widely used and empirically validated across various contexts and technologies and have served as foundation models for subsequent models and theories related to technology adoption

The TRA by Fishbein and Ajzen (1975) offers constructs for understanding attitude, its measurement, and how it predicts human behavior. It recognizes attitude and subjective norms (social influence) as the main predictors of people's behavior and their intention to use a good or service, and, in this case, cashless instruments, particularly the mobile payment system. Attitudes determine how one perceives and evaluates the intention to use or not use technology. Furthering the development of this theory, Ajzen (1991) introduced another construct, 'perceived behavioral control', in his Theory of Planned Behaviour (TPB). The main point is that "if consumers do not perceive themselves as being in control, they will not perform the tested behavior" (Stalfors & Nykvist, 2011, 7).

Davis (1989) explained what motivates people to accept and use computer technologies. In his Technology Acceptance Model (TAM), perceived usefulness and usability were the two constructs he tested. The perceived usefulness is based on the understanding or conviction by the user of the technology—for instance, any of the cashless instruments—that using it will enhance performance. On the other hand, the perceived ease of use explains the users' belief that using the system will be easy (Lai, 2017). Therefore, if people think technology is practical and simple, they are more inclined to accept and use it.

Finally, Parasuraman and Colby's (2001) Technology Readiness (TR) explains people's propensity to accept and use technology to accomplish their tasks at home and the workplace. Based on a person's score for technology readiness, they segment technology users into five

categories: “explorers, pioneers, sceptics, paranoids, and laggards”. This classification is similar to the S-shaped type for innovation adoption described by Rogers (1995) in his Innovation Diffusion Theory: “early adopters, early majority, late majority, and laggards” (cited in Lai, 2017, 23). Therefore, TRA, TPB, TAM, IDT, and TR are interconnected in their focus on understanding the factors that influence individuals' acceptance and adoption of behaviour and technology.

According to Udo (2019), a cashless economy is one in which people make payments via electronic modes. Ogunleye *et al.* (2012a) explained that a cashless society is an economy that moves its whole payment system from the usage of cash for all personal, business, and governmental levels settlement activities, local and foreign, to the systematic adoption of other non-cash payment modes in both the public and private sectors. It means a complete shift away from the use of cash in all forms of transactions. Similarly, Rudresha (2019) and Sreenu (2020) believe that it does not require physical money. This view sharply contrasts with Alilonu (2012) and Deora (2018). Alilonu (2012) posits that a cash-lite economy does not mean eliminating the use of cash, as money will continue to be a means for exchanging goods and services. He defined a *cashless system* as an ecosystem that offers substitute payment mechanisms to reduce the use of actual cash. In Deora's (2018) view, an utterly cashless economy is not a feasible policy. Thus, there has yet to be a consensus on the definition of a cashless economy. While there is agreement that it involves the systematic replacement of cash with electronic payment alternatives, there is contention about whether it entails a total elimination or minimization of the use of money. However, most views support undertaking all financial transactions in electronic form.

Akinola (2012) outlined some benefits of a cashless economy, such as acting as an anti-corruption check, reducing crimes, and increasing government revenue. Typically, digital payments enabled India to reduce bribery by 47%. It also contributed to removing 50,000 ghost names from Ghana's government payroll and pension register. Notwithstanding, Akinola (2012) acknowledged that some users are concerned about security threats that may lead to money loss. Meanwhile, Gajjar (2019) identified some of the electronic instruments of payment as mobile wallets, Unified Payments Interface (UPI) apps, e-wallets, Unstructured Supplementary Service Data (USSD), and credit and debit cards. Chaudhari (2017) suggests that Internet facilities are an important prerequisite for a cashless system. Hence, governments must create an infrastructure for faster and cheaper internet connectivity.

2.2 Acceptability and Use of Mobile Money Payment System

The adoption of mobile money is increasing rapidly across the globe. As of 2019, there were 290 mobile money services globally in 95 countries and 144 concentrated in Africa. Within Sub-Saharan Africa (SSA), Western and Eastern Africa dominate in terms of live services (LS), total registered accounts (RA), active accounts (AA), the volume of transactions (VT), and the value of transactions (VT) (GSMA, 2020, 2022) as shown in Table 1 below.

Table 1: State of the Industry Report on Mobile Money

	2019					2021				
	LS	Accounts		Transactions		LS	Accounts		Transactions	
		RA	AA	TV	VT		RA	AA	TV	VT
Global	290	1.04bn	372m	37.1bn	\$690.1bn	316	1.35bn	346m	53.9bn	\$1.0tn
SSA	144	469m	181m	23.8bn	\$456.3bn	161	605m	183m	36.6bn	\$697.7bn
East Africa	54	249m	102m	17.1bn	\$293.4bn	59	296m	102m	24.0bn	\$403.4bn
Central Africa	17	48m	20m	1.8bn	\$30.4bn	19	60m	19m	2.9bn	\$50.1bn

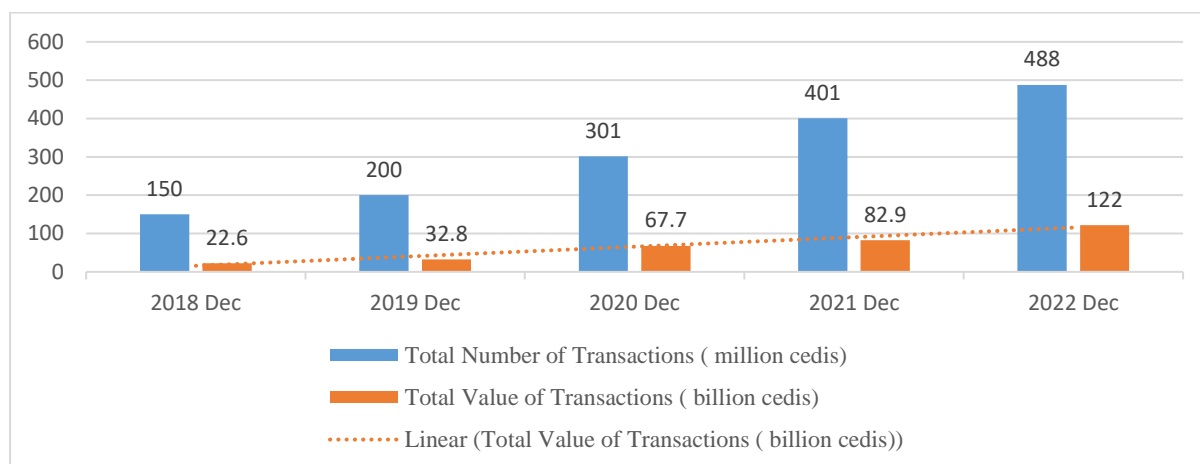
Southern Africa	14	9m	3m	165m	\$2.5bn	14	13m	4m	335m	\$4.9bn
Western Africa	59	163m	56m	4.8bn	\$130.0bn	69	237m	58m	9.3bn	\$239.3bn

Source: GSMA, *State of the Industry Report on Mobile Money (2020, 2022)*

Within the Ghanaian economic landscape, a distinctive pattern of development emerges, aligning with a global trend in financial activities. The evidence presented in Figure 1 portrays a comprehensive picture of the years spanning from 2018 to 2022. During this time frame, there has been a noteworthy and positive shift in the realm of financial transactions. This surge in financial transactions is highlighted by a striking increase of approximately 225%, showcasing the nation's increasing engagement in economic activities.

However, the statistics go even further to emphasize this transformative period. In tandem with the substantial rise in the number of transactions, there has been a phenomenal expansion in the volume of transactions. This surge in transaction volume, which grew by nearly 440%, is indicative of not only the increased frequency of transactions but also the greater magnitude of each transaction. Such a combination of factors signifies a substantial boost in economic dynamism within the country.

The implications of these statistics are far-reaching and require a more in-depth analysis. Understanding the driving forces behind this remarkable growth is essential, as it holds the potential to unveil key insights into the evolving economic landscape of Ghana. It could shed light on the factors fueling this impressive increase in financial activities and the resulting impact on the overall health and prosperity of the Ghanaian economy.



Source: *Summary of Economic and Financial Data, Bank of Ghana (2023)*

Figure 1. Mobile Money Transactions in Ghana

The increasing trend in accounts and transactions is a testament to the general acceptability of mobile money globally, particularly in Africa. For instance, as of 2014, the percentage of adults using mobile money in SSA was about 12%. The figure increased to 21% in 2017 and 33% in 2021 (Demirgüç-Kunt *et al.*, 2018, 2022). Suri *et al.*, (2023) indicated that the adoption of mobile money is spreading like a wildfire in developing economies, including SSA, Paraguay, the Philippines, and Bangladesh. According to Aron (2018), cited in Ahmad, Green, and Jiang (2020), the increased acceptability is because it is secure and has lower transaction costs than other means. Apart from person-to-person (P2P) payments, they are also used for savings, to receive wage and government transfer payments, and to pay merchants and bills (Suri *et al.*, 2023).

2.3 Factors Determining the Acceptability and Use of Cashless Instruments

The theories reviewed enumerate several factors determining the adoption and use of new technology. According to TRA, TPB, TAM, IDT, and TR, the factors include attitude, social influence (Fishbein & Azjen (1975), controllability (Ajzen, 1991), perceived usefulness, ease of use (Davis, 1989), compatibility with one's values and needs, complexity, trialability, and observability, social influence, communication channels, time (Rogers, 1995), and technology readiness score (Parasuraman & Colby, 2001).

Empirically, Walczuch *et al.*, (2008) examined the factors influencing the adoption of mobile payment services and found that perceived usefulness, ease of use, and compatibility influence the adoption decision. Exploring factors determining mobile money adoption and usage, Ita and Queen (2020) disclosed that mobile money interoperability significantly impacted adoption rates and increased mobile money intensity, emphasizing that individuals with higher education levels, higher incomes, a young age, and positive perceptions about the usefulness of mobile money were more likely to adopt and use it.

Mswahili (2021) focused on potential factors influencing the acceptance and use of mobile money interoperability services and found perceived ease of use, price value, network availability, security and trust, service quality, and task characteristics. Thus, these studies complement each other. Yevu (2022) found that 53.3% of Ghanaians surveyed within Accra did not support the Electronic Transfer Levy introduced by Ghana's government, indicating that the Policy would undermine the cash-lite Policy. Adopting the TAM, Kelly (2022) and Kelly and Palaniappan (2023) revealed that risk, suitability, trialability, cost, social impact, usability, and convenience determine mobile money usage.

3. MATERIALS AND METHODS

The study explored the views of the cashless agenda with a focus on the Sunyani Municipality, the capital of the Bono Region, using mixed methods research and examining the causal relationship among variables (Saunders *et al.*, 2009). Four mobile telecommunications companies operate mobile money services in the municipality, including Vodafone, MTN, Airtel Tigo, and Glo. All these mobile service companies are interconnected. Besides, Zenith Bank and GCB Bank operate other mobile money services such as Zee Pay Mobile Money and G-Money.

The target population comprises the general public (18 years and above), business operators within the Sunyani Municipality, and a representative from the Bank of Ghana. The businesses included shops, fuel stations, supermarkets, and taxi drivers. The rationale for selecting them was that they are the key stakeholders whose behaviour towards accepting or failing to use the cashless instruments could promote or undermine the cashless economy agenda. The total population of the Sunyani Municipality is 193,595 (Ghana Statistical Service, 2021).

Based on a confidence level of 95% and a population proportion of 50%, the real value is within 5% of the measured value, and an appropriate sample size of 384 was calculated and used. However, the returned questionnaires included one Bank of Ghana representative, 100 business owners, and 250 respondents from the general public, all conveniently and purposefully chosen. Thus, a total of 351 respondents constituted the sample size.

Two instruments were used to collect the primary data from the respondents: a self-administered questionnaire and a structured interview. The structured interview collected data from respondents who could hardly read and write. Saunders *et al.* (2009) explained that a structured interview is a data collection approach whereby the interviewer prepares a questionnaire, meets respondents physically, and asks them questions face to face, specifically adhering to the pattern of questions as it appears on the questionnaire. Three sets of questionnaires were designed for the study for each respondent category: the general public, the representative from the Bank of Ghana, and the business operators. Each

questionnaire was composed of three parts as follows: Part A: Bio-data of respondents; Part B: Acceptability and usage of cashless instruments; Part C: Challenges with the use of cashless tools. The individual questionnaires had 17, 12, and 22 questions, most of which were 5-point Likert scale-type questions.

Data Analysis Method

Data were analysed quantitatively using descriptive and inferential statistical analysis tools. The descriptive statistics were presented using measures such as frequency, percentage, tables, and bar charts/graphs, while the inferential statistical tool employed was the General Linear Regression Model. The Statistical Package for Social Science (SPSS) software version 25 was used.

4. RESULTS

4.1 Background of the Respondents

The demographic characteristics of the respondents such as gender, age, education, and income levels are presented in Table 2.

Table 2. Gender, Age, Educational level, and Income level of Respondents

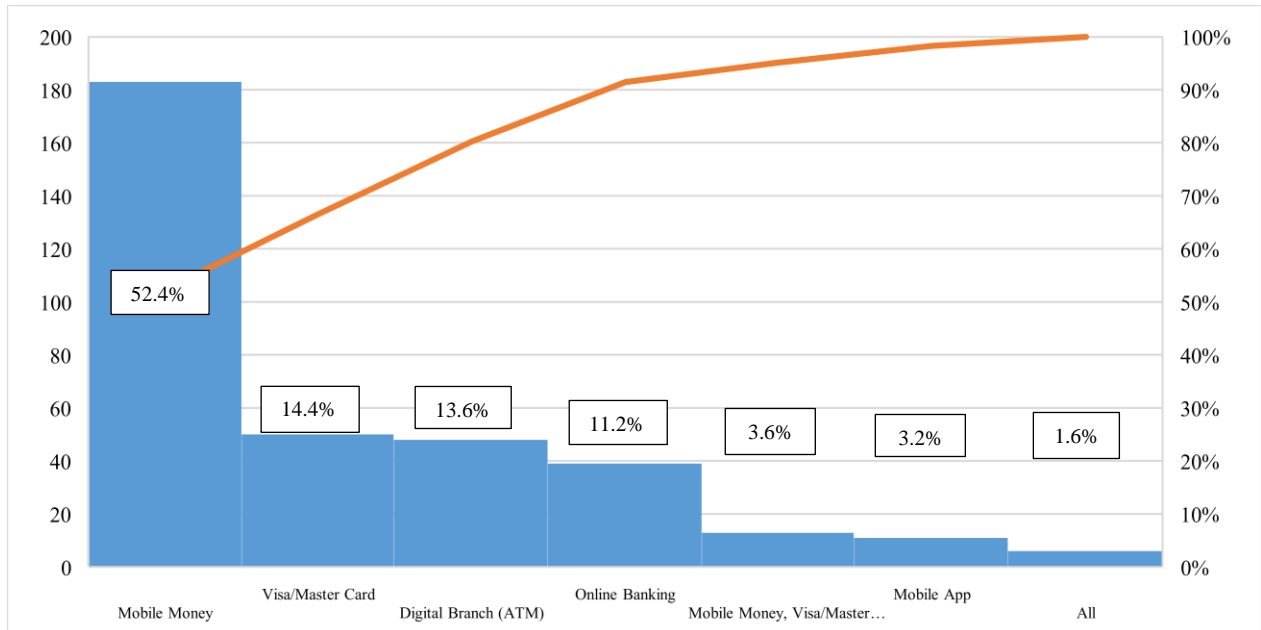
Variable	Frequency	Percentage (%)
Gender:		
Male	134	38.2
Female	217	61.8
Age:		
18 – 25	87	24.8
26 – 35	118	33.6
36 – 45	115	32.8
46 and above	31	8.8
Education Level:		
No formal education	4	1.1
Basic/Secondary	67	19.1
Diploma	77	21.9
First degree	140	40.9
Master's	59	16.8
PhD/DBA	4	1.1
Income Range:		
Less than 500	32	9.1
500-1500	107	30.6
1600-3000	111	31.7
3000-5000	85	24.3
More than 5000	15	4.3
Total	351	100.0

Source: *Field Work (2023)*

Except for income level, which had 350 respondents, the rest of the variables had a sample size of 351. About 38% were male while the remaining 62% were females. In terms of age, the majority, 66% belonged to the age category 26 to 45 years. This means that the respondents were generally youthful and fell within the working class. With regards to education, the majority of the respondents, about 41% hold a first degree although there were individuals with master's (16.8%) and doctoral qualifications (1.1%) and also those with no formal education (1.1%). Finally, about 87% earn between GHC500 and GHC5,000 per month indicating that the majority fall within the middle class.

4.2 Acceptability and Usage of Cashless Instruments

The study investigated the type of cashless platform (s) respondents prefer to use in their day-to-day personal and business transactions amongst the six (6) provided in the questionnaires, namely mobile money, visa/master card, online banking, mobile app, digital branch (ATM), and QR payment. The Pareto chart in Figure 2 shows the responses.



Source: Field Work (2023)

Figure 2. Acceptability and usage of cashless instruments

In Figure 2, the top three cashless instruments most widely used are mobile money (52%), Visa/Master Card (14%), and the Automated Teller Machine (ATM) (14%). Those who use these instruments choose mobile money as their preference.

Table 3. Preference between cash and electronic payment (e-payment)

Statement	Cash payment (%)	Electronic payment (%)
How do you (as a business operator) transact with customers?	31.0	69.0
How do you transact with banks and other financial institutions?	81.0	19.0
Which of these payment methods is convenient?	61.0	39.0
Which of these payment methods is expensive to use?	41.0	59.0
Which of these payment methods reduced theft and corruption?	38.0	62.0
Which of these payment methods is safe to use?	34.0	66.0
Which of these payment methods promotes accountability?	34.0	66.0

Source: Field Work (2023)

Table 3 presents information on the respondents' preferred payment system. Most business operators (69%) indicated they deal with their customers via electronic payment. However, on how respondents transact business with their banks and other financial institutions, the majority (individuals and business operators), representing 81%, chose cash payment. This outcome is worrying, especially when most admit that e-payment is safe, ensures accountability, and reduces theft and corruption. They, however, preferred cash payments on the grounds of convenience and cost-effectiveness.

4.3 Factors that Influence the Use of Cashless Instruments

The study explored factors that influence the use of cashless instruments, particularly mobile money. The previous section disclosed that mobile money is the preferred cashless instrument as individuals and businesses mostly use it. Therefore, the researchers conducted a General Linear Regression Model to ascertain factors that significantly influence the use of cashless instruments. Tables 4 and 5 give detailed analyses of these factors.

Table 4. Tests of Between-Subjects Effects

Dependent Variable: Mobile money usage					
Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	1078.842 ^a	12	89.903	18.788	0.000
Intercept	5191.358	1	5191.358	1084.914	0.000
Effect of e-levy on MM use	386.788	1	386.788	80.833	0.000
High Illiteracy Rate	238.257	4	59.564	12.448	0.000
Inadequate Infrastructure	404.905	4	101.226	21.155	0.000
Frequency of e-payments	163.241	3	54.414	11.372	0.000
Error	1134.054	237	4.785		
Total	12148.000	250			
Corrected Total	2212.896	249			

a. R Squared = 0.488 (Adjusted R Squared = 0.462)

Source: Field Work (2023)

The *F* and *Sig* columns under Table 4 show that the overall effect of each of the independent variables was significant. This tested within each Factor whether the means of each level within each Factor were equal. Table 5 below presents the parameter estimates, which helped to compare particular levels of each category.

Table 5. Parameter Estimates

Dependent Variable: Mobile money usage				
Parameter	B	Std. Error	t	Sig.
Intercept	12.341	0.878	14.048	0.000
Effect of e-levy on MM use =1.00]	-3.310	0.368	-8.991	0.000
Effect of e-levy on MM use =2.00]	0 ^a	.	.	.
[High Illiteracy Rate =1.00]	-0.879	0.458	-1.920	0.056
[High Illiteracy Rate =2.00]	-0.017	0.533	-0.031	0.975
[High Illiteracy Rate =3.00]	-2.317	0.429	-5.406	0.000
[High Illiteracy Rate =4.00]	0.633	0.414	1.530	0.127
[High Illiteracy Rate =5.00]	0 ^a	.	.	.
[Inadequate Infrastructure =1.00]	-0.383	0.572	-0.669	0.504
[Inadequate Infrastructure =2.00]	0.896	0.572	1.566	0.119
[Inadequate Infrastructure =3.00]	-2.694	0.531	-5.074	0.000
[Inadequate Infrastructure =4.00]	-1.342	0.561	-2.392	0.018
[Inadequate Infrastructure =5.00]	0 ^a	.	.	.
[Frequency of e-payments =1.00]	-3.392	0.811	-4.181	0.000
[Frequency of e-payments =2.00]	-1.599	0.760	-2.103	0.037
[Frequency of e-payments =3.00]	-1.521	0.831	-1.831	0.068
[Frequency of e-payments =4.00]	0 ^a	.	.	.

a. This parameter is set to zero because it is the base level for comparison.

Source: Field Work (2023)

In the categorical variable case, SPSS holds the last category as the base or default category and reports the coefficient for the non-base case in terms of their difference. On whether the

introduction of the e-levy affected behavior in terms of mobile money usage, Table 5 suggests that those who responded in affirmation substantially differed from those who said it had not affected their behavior (p-value = 0.000). Similarly, the responses of those who "strongly disagreed" that the high illiteracy rate affects mobile money usage substantially differed from those who "strongly agreed" (p-value = 0.056). However, those who "strongly disagreed" that the inadequacy of infrastructure also influences the cashless economy agenda did not significantly differ from those who "strongly agreed" (p-value = 0.504).

Finally, about the extent to which the frequency of e-payments contributes to the success or otherwise of the cashless economy agenda, the response of those who "often" use e-payments differed considerably from those who "rarely" use e-payments (p-value = 0.000). Also, the model explains 46% of variations in the dependent variable, which means the model fit is quite good. Therefore, although the respondents agreed that the e-levy, inadequate infrastructure, and frequency of use of cashless instruments could affect the cashless agenda, they disagreed regarding the illiteracy rate.

4.4 Challenges with the Use of Cashless Instruments

The final aspect of the analysis was to understand the challenges users of cashless instruments faced in their day-to-day transactions. The information presented in Table 6 gives further details.

Table 6. Challenges of the cashless system

Challenges	Agree (%)	Disagree (%)
High Illiteracy rate	52.0	48.0
Identity theft/fraud	80.8	19.2
Inadequate infrastructure	30.4	69.6
Unreliable network	53.6	46.4
Cyber security threat	57.2	42.8
Reduction in staff (unemployment)	40.8	59.2
Privacy and security concerns	57.2	42.8

Source: Field Work (2023)

The challenges expected to affect the smooth operation of any cashless system are enumerated. The challenges outlined were a high illiteracy rate, identity theft or fraud, unreliable networks, cyber security issues, and privacy and security concerns. However, they disagreed that inadequate infrastructure and reduction in staff or increased unemployment are challenges.

5. DISCUSSION

The study revealed that businesses and individuals generally accepted and used cashless instruments for daily transactions. The top three cashless instruments were mobile money, the Visa or Master Card, and the Automated Teller Machine (ATM). Among these, mobile money was the most widely used due to its perceived ease of use for shopping and paying bills. In essence, they are ready to go cashless. This finding aligns with the results of some studies reported in the literature. For instance, Demirgüç-Kunt, *et al.*, (2018, 2022) observed an increasing trend in mobile money accounts and transactions. They noted that the percentage of adults using mobile money in SSA was about 12% in 2014, which increased to 21% in 2017 and 33% in 2021. These increases are a testament to the general acceptability of mobile money globally, particularly in Africa. Similarly, Suri *et al.* (2023) observed a rapid increase in the adoption of mobile money. According to Aron (2018) and Ahmad *et al.* (2020), the increased acceptability was due to its security, lower transaction costs, quick transfer across networks, and multiplicity of uses (Suri *et al.*, 2023) compared to other cashless means. This result suggests that Ghanaians are open to going cashless, as evidenced by the widespread use of cashless payment methods. As a result, it would be prudent for the

government and the Bank of Ghana to gradually decrease the use of physical cash and promote these alternative payment methods.

The respondents agreed that the Electronic Transfer Levy (e-levy), inadequate infrastructure, and frequency of use of cashless instruments could affect the cashless agenda. However, in terms of the illiteracy rate, they disagreed. Additionally, the study could not find evidence to support factors such as age, gender, education, income levels, network reliability, and security, as these variables proved statistically insignificant. This finding is consistent with Yevu (2022), who found that 53.3% of Ghanaians living within Accra indicated that the Electronic Transfer Levy policy introduced by the government would undermine the government cash-lite Policy. Also, Mswahili (2021) disclosed that perceived ease of use, price value, network availability, security and trust, service quality, and task characteristics influence the acceptance and use of mobile money interoperability services and the cashless agenda. The identification of network availability, usefulness, and ease of use service quality which is part of infrastructure and frequency of e-payments (as perceived usefulness and ease of use warrant this), is consistent with the findings of this study. Ita and Queen (2020) found, contrary to the findings of this study, that higher education levels, higher incomes, a young age, and positive perceptions about the usefulness of mobile money are more likely to adopt and use it. However, their identification of infrastructural investments promoting wider adoption is consistent with this study. Alchalumeh and Ohiokha (2012) admitted that infrastructure must be concertedly addressed. This discussion reveals potential challenges that could undermine the policy's successful implementation and calls for policymakers' attention to work together to address them.

On challenges, the study found that most respondents were concerned about the illiteracy rate, identity theft or fraud, unreliable networks, cyber security issues, and privacy and security issues. However, they did not see inadequate infrastructure, reduced staff, or increased unemployment as challenges. Furthermore, the study discovered that going cashless in people's minds does not involve banks. The respondents see it as a means to make their daily lives comfortable and flexible. It is worrying that many of the respondents, particularly the business operators, do not transact with their banks via cashless mode, although they admit it is the safest. This revelation is vital because if Ghana wishes to go cashless, banks and businesses must do more cashless transactions. This finding supports Ita and Queen (2020), who found that higher education levels are good for technology adoption and use. Contrary to this study, Alchalumeh and Ohiokha (2012) emphasize infrastructure's important role and that any infrastructural challenges should be concertedly addressed to guarantee smooth operations. Akinola (2012) observed that despite the prospects of cashless instruments, some users are concerned about security threats that may lead to money loss. Chaudhari (2017) advocates for enhanced Internet facilities as they are an important prerequisite for a cashless system. This finding implies that mobile money is an important cashless instrument that can easily facilitate the cashless economy agenda. Apart from this, some combine mobile money, Visa or Master Card, and online banking in their daily transactions. Some of the threats have been identified in this discussion section. The successful resolution of these issues, namely theft, privacy concerns, and network unreliability, among others, requires urgent attention to instill confidence in using cashless instruments.

6. CONCLUSION

Based on the findings of the study, from the perspective of the respondent's mobile money payment system is a gateway for achieving the cashless economy agenda in Ghana. Furthermore, the acceptability of cashless instruments is seen as inevitable despite the recently introduced e-levy on mobile money transactions. This result explains why they perform very few bank transactions via electronic payments. It can be said that Ghana going cashless will benefit everyone in diverse ways. Finally, the potential challenges identified can readily be addressed to ensure the cashless economy agenda. Based on the findings of our research, a set of recommendations has been formulated to enhance the successful

implementation of the cashless economy agenda in Ghana. Firstly, the government must initiate a comprehensive and vigorous public education campaign, aimed at enlightening the populace about the significance of transitioning to cashless transactions. This educational effort will serve to foster greater acceptance and adoption of digital payment methods.

In addition, the Bank of Ghana must take proactive steps to establish and enforce the essential regulatory frameworks. This should encompass stringent licensing requirements, the introduction of updated procedures for financial services, and the enhancement of distribution channels and infrastructure, particularly in areas with underdeveloped systems. Furthermore, the Bank of Ghana should consider forging collaborative ties with sister regulatory bodies from other regions where mobile money usage has proven successful, such as the Central Banks of Kenya and Tanzania. This cross-border collaboration can provide valuable insights and best practices that can help address potential challenges and hurdles that may arise during the cashless transition. Lastly, to ensure the success of this endeavor, substantial investments from key stakeholders, including the government, banks, and non-bank operators, are vital. These investments should be directed towards improving the speed, affordability, and security of internet connectivity, making it readily available to instill confidence in the people and promote the widespread adoption of cashless transactions. Collectively, these recommendations provide a comprehensive roadmap for the prosperous realization of a cashless economy in Ghana.

ACKNOWLEDGEMENTS

Our gratitude extends to the receiver(s) who generously provided their invaluable suggestions, which have been thoughtfully integrated into our manuscript, enhancing its quality. Additionally, we wish to express our sincere appreciation to Prof. Kaku Sagary Nokoe for their essential role in proofreading the manuscript during its initial stages and for offering valuable recommendations. Their contributions have undoubtedly contributed to the refinement and overall excellence of our work.

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