

Online Payment Systems: Prospects and Constraints in Developing Countries

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Abstract:

The future of online payment systems in developing countries is promising, although it comes with some challenges. This paper tries to explore these prospects, the associated constraints and possible approaches that could enable more gains in the adoption of the payment system. In this work, survey method was adopted to extract the opinions of the users of the system. We considered the use of questionnaire tool for data gathering. This was done randomly online for a wider coverage of respondents across nations with special interest on respondents residing in developing countries particularly in Nigeria. The Data gathered helped to identify any prospects in online payment systems in developing countries and any associated constraints in it. To achieve this, over 100 internet users were selected for the survey. The selection was heterogeneous, cutting across various ages; public and civil servants; students in tertiary institutions; academia, political class. An open-ended question was included to enable respondents to contribute their opinions on the subject and responses were analyzed using descriptive statistics. The result of the survey showed that 96.3 % of the 81 respondents, resides in developing country, only 3.7 resides in developed countries. This makes it a suitable sample group for the survey. All the respondents are using online payments system for most of their financial transactions. 83.8% of the respondents frequently make use of Online payment system, while 16.2% also uses online payment systems but rarely. The result also revealed that Online Payment systems can bring more benefits to individuals and businesses in developing countries. 97.5% of the respondents affirmed this claim while the remaining 2.5% were indifferent.

Key Word: 1 Online Payment, Prospects, Developing Countries, Constraints.

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I. Introduction

An online payment system is a digital platform or service that enables individuals and merchants to make payments for goods and services over the Internet. These payment systems facilitate the transfer of funds from the consumer's bank to the bank of the merchant or business; and allow users to make payments, conduct financial transactions, and transfer money, without the need for physical cash or traditional paper-based methods. Online payment systems provide a secure and convenient way to handle various types of transactions in the digital age. Developing counties are increasingly keying into the system, and several developing countries have embraced the online payment transaction method. (Arwa M., 2020).

The terms "online payment" and "electronic payment" are sometimes used interchangeably, but they can have subtle different meanings depending on the context. Here's a general breakdown of the differences between the two: Online payment refers specifically to the process of making payments over the Internet, typically through a website or a mobile app.

It emphasizes the use of online platforms, websites, or applications to initiate and complete transactions. Online payments can involve various methods such as credit/debit cards, digital wallets, bank transfers, and other electronic means. Example include making a purchase on an e-commerce website, paying bills through an online banking portal, or using a mobile payment app for transactions.

Electronic payment is a broader term that encompasses any form of payment conducted electronically, not limited to online channels. It includes transactions that may not necessarily be internet-based. Electronic payments cover a wide range of electronic or digital transactions, and these can occur through various channels, including online platforms, point-of-sale (POS) terminals, mobile devices, and automated systems. These include using a debit/credit card at a physical store, making a contactless payment with a mobile device, or transferring funds electronically between bank accounts. Online payment specifically refers to transactions conducted over the Internet, emphasizing the online aspect of the process. On the other hand, electronic payment is a broader term encompassing any form of payment conducted electronically, which includes online transactions but is not limited

to them. The key distinction lies in the scope of the payment method, with online payment being a subset of electronic payment.

II. Related Literature Review

Reviewing the related literature on online payment systems showcases the growing importance and acceptance of these systems in the civilized business world. An acceptable and efficient payments system or platform is a crucial and relevant innovation that enhances the growth of a modern society in order to address the new form of financial transactions to ensure smooth payment for any transactions between individual or a group of people.

A payments system refers to the established infrastructure (institutions, people, set of instruments, rules, procedures, standards and computer networks) through which financial obligations are discharged by economic agents. It entails the physical and organizational structure that enables the transfer of value between parties discharging mutual obligations. In other words, a payments system refers to an arrangement in the financial system which supports the transfer of funds from suppliers/savers to users/borrowers, and from payers to payees, usually through the exchange of obligations by financial institutions. For the payments system to function effectively, the financial system must be properly developed and efficient as highlighted by (CBN 2021).

Monetary transactions and exchanges among different individual in business keep on encourages an electronic business platform which was initially cash-based system of payment on goods and services rendered was gradually replaced by the electronic payment platforms. The introduction of this improved payment systems on the world business stage prompted eventually all business entities to naturally metamorphose change from the customary paper-based cash exchanges to an electronic system of payment which is also known as the online payment system as buttressed by Burhan U. I. et. al (2017).

Online payments systems in developing countries within African continent is growing faster the invention of e-wallets payment system continue to grow in an increase trend. The future of electronic payments in developing Countries like Africa is one of tremendous growth. There are several alternative ways to slice this growth and opportunity, including channels, parts of the value chain, segments, payment methods, and combinations of these which are (electronic wallets, cards, and accounts), payment channels (online and offline), and customer segments (consumers and small and medium-size enterprises) are extensively highlighted by McKinsey (2022)

The online payment transaction method has been embraced by several developing countries today. Electronic Ecommerce started in Africa in the 1970s with the use of teleshopping which is a transaction method use by the customers to order for goods and services through the telephone. This method was first introduced by Michael Aldrich, an English entrepreneur, in 1979 in the United Kingdom. This concept of teleshopping helps the modern e-commerce online transaction (Arwa M., 2020).

The universal acceptability of the internet and mobile phones have immensely helped in the development of digital payments system. This growth was due to the awareness and potential knowledge of how this electronic payment system works especially in the developing countries. Some of the factors affecting the use, adoption, and acceptance of digital payment methods can be lack of infrastructural facilities, illiteracy that may affects the smooth transaction of online payment system. The key limitation of these low patronage of online payment system is the existing theories of a developing countries' inability to consider and embrace the role of social and cultural facets in the adoption of new technology or trends. This is one of the constraints of online expansion in developing countries which was further explained by Alaa M. S. et.al (2021)

Aduba J.J, (2020), highlight on the constraint faced in implementing electronic banking system in developing countries which was characterized by users' socioeconomic status, and the desire to use internet/mobile banking system which is low with old people but increase tremendously with young and educated individuals with sufficient income. He further stated that chances of adopting e-Banking platforms such as short message service (SMS) and point of sale (POS) banking and other payment system increases with older Users and informal employed individual.

Ashishie D.U., et.al (2022) sequentially analyzed the exiting Online Payment Systems and their types and they further buttress various challenges and inherent gateways and important or usefulness of online payment platforms in boosting the economic emancipation of any developing countries most especially the Africa continent.

Erukoha C.U., et. al (2022), stated that developing Countries lacked facilities and enabling environment for online payment system to thrive. They further buttressed that, for any developing country to have an efficient online payment platform, there is a need for the financial sectors like banks, fintech, financial and regulatory agencies to design a structures and resources that will improve the security of the system and its integrity.

Niankara I. et.al (2023), stated that online payment systems tremendously grow the economy during disasters or pandemic like COVID 19 crisis. They further reviewed how the digital payment systems help during the lockdown thereby diffused the economic meltdown globally.

Okifo J. & Igbunu R., (2015) reported that, developing countries can tremendously benefit from online payment system if it is fully implemented with necessary infrastructures. According to them, the online payment system has an unquantifiable benefit that can improve and metamorphose every developing country into a cashless economy, this implementation can help any nation to eradicate corruption.

Marwah N. H. et.al (2020), reported that, for an online payment system to be accepted and reliable for effective financial transaction, the payment platform must utilize all security measures or device that can monitor or track unauthorized access to the online payment system. This helps to track criminals that may try to invade the payment platforms. It was added that if Consumers mistakenly disclose data that is confidential to them to unknown individual, for example, names, particulars about their cards and numerous other information during their online transactions, this may lead to fraud.

Claudia P. et. al (2023), stated that, payment systems have been drastically transformed over the years. In developing countries, online payment systems have transformed innovations fueling payment transactions and supporting long-run financial growth. They also asserted that, the Internet platform encourages electronic business and other electronic transactions, electronic payments (e-payments) have evolved from a technological novelty to one of the leading payment options.

Khando K. et. al (2022), The financial transaction in developing countries need technology and the internet usage to triggered the emergence of digital payment technologies. They also reported that, technological development in the payment industry is the foundation for financial inclusion. From their review, it was deduced that, despite the continuous progress and potential of moving the payment landscape towards digital payments and connecting the population to the ubiquitous digital environment, some critical issues need to be addressed to achieve a more harmonious inclusive and sustainable cashless society.

III. Research Methodology

In this paper, we tried to carry out an in-depth analysis of the prospect and constraints of online payment system in developing countries. In this work, survey method was adopted to actually extract, the opinions of the users of the system. We considered the use of questionnaire tool for data gathering. This was randomly distributed online for a wider coverage of respondents across nations with special interest on respondents residing in developing countries particularly in Nigeria.

Research questions:

1. Are there prospects for online payment systems in developing countries?
2. Are there Constraints in utilizing online payment systems in developing countries?

Objective: To properly identify whether there is a prospect in online payment systems in developing countries and if there is any constraints in it.

Over 100 internet users were selected for the survey. The selection was heterogeneous, cutting across various ages; public and civil servants; students in tertiary institutions; academia, political class; and so on. We ensured that all participants have knowledge of online applications hence the use of an online approach to distribute the questionnaire. More than one week was given to allow the respondents some time to fill out the forms. The survey questionnaire has twenty-five (25) questions composed of single and multiple options. An open-ended question was included to enable respondents to contribute their opinions on the subject. A total of eighty-one (81) responses were received. The received responses were analyzed using descriptive statistics. The responses were summarized and presented in a table using a spreadsheet.

IV. Result And Discussions

The summary of the responses is presented in the tables below. Table 1 is the summary of single optional questions while Table 2 presents the summary of responses for questions with multiple choices.

Table no 1: Summary of optional choice questions of the survey questionnaire

S/ N	Question	Optional answers				
1	How frequently do you utilize online payment systems in your financial transactions?	Often (83.8%)	Rarely (16.2%)	Never (0%)		
2	What is your preferred online payment method?	Credit Card (13.6%)	Debit Card (19.8%)	Mobile Wallet (17.3%)	Bank Transfer (48.1%)	Others (1.2%)
3	On a scale of 1 to 5, How would you rate the reliability of online payment systems in handling your transactions?	Very Low (1.2%)	Low (1.2%)	Normal (28.4%)	High (53.1%)	Very High (16%)

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4	Do you think that security concerns are a major issue in online payment systems?	Strongly Agreed (25.9%)	Agreed (44.4%)	Neutral (19.8%)	Disagreed (8.6%)	Strongly Disagreed (1.2%)
5	Do you face any difficulties in accessing online payment platforms due to internet connectivity issues or poor network coverage?	Yes (81.5%)	Maybe (12.3%)	No (6.2%)		
6	Have you experienced any instances of transaction failures or delays while using online payment systems?	Yes (88.9%)	Maybe (2.5%)	No (8.6%)		
7	How do you perceive the fees associated with online payment transactions compared to traditional payment methods?	Very Low (8.6%)	Low (17.3%)	Normal (45.7%)	High (18.5%)	Very High (9.9%)
8	Do you find online payment systems user-friendly and accessible for individuals with varying levels of digital literacy?	Yes (77.8%)	Maybe (14.8%)	No (7.4%)		
9	Is your country of residence developed or developing?	Developing (96.3%)	Developed (3.7%)			
10	Do you believe that government regulations or policies influence the adoption and effectiveness of online payment systems in developing countries?	Yes (79%)	Maybe (14.8%)	No (6.2%)		
11	Do you think that cultural or societal factors impact the adoption and usage of online payment systems in developing countries?	Yes (55.6%)	Maybe (25.9%)	No (18.5%)		
12	Do you think the lack of access to banking services or financial inclusion affects the use of online payment systems in developing countries?	Yes (81.5%)	Maybe (8.6%)	No (9.9%)		
13	How optimistic are you about the future growth and adoption of online payment systems in developing countries?	Very Optimistic (85.2%)	Not Optimistic (4.9%)	Not sure (9.9%)		
14	Do you think that online payment systems can bring more benefits to individuals and businesses in developing countries?	Yes (97.5%)	Maybe (2.5%)	No (0%)		
15	Do you think the availability of affordable smartphones/devices and internet access will impact the adoption of online payment systems in developing countries?	Yes (91.4%)	Maybe (6.2%)	No (2.5%)		
16	Do you believe that partnerships between online payment providers, financial institutions, and other stakeholders can accelerate the adoption of digital payment solutions in developing countries?	Strongly agree (21%)	Agree (55.6%)	Neutral (19.8%)	Disagree (1.2%)	Strongly disagree (2.5%)
17	Do you believe that online payment systems promotes financial inclusion and access to banking services in underserved communities in developing countries?	Yes (86.3%)	Maybe (8.8%)	No (5%)		
18	Do you believe that innovations or advancements in technology will further enhance the functionality and convenience of online payment systems in developing countries?	Strongly Agreed (23.5%)	Agree (55%)	Neutral (6.3%)	Disagreed (6.3%)	Strongly disagree (8.9%)

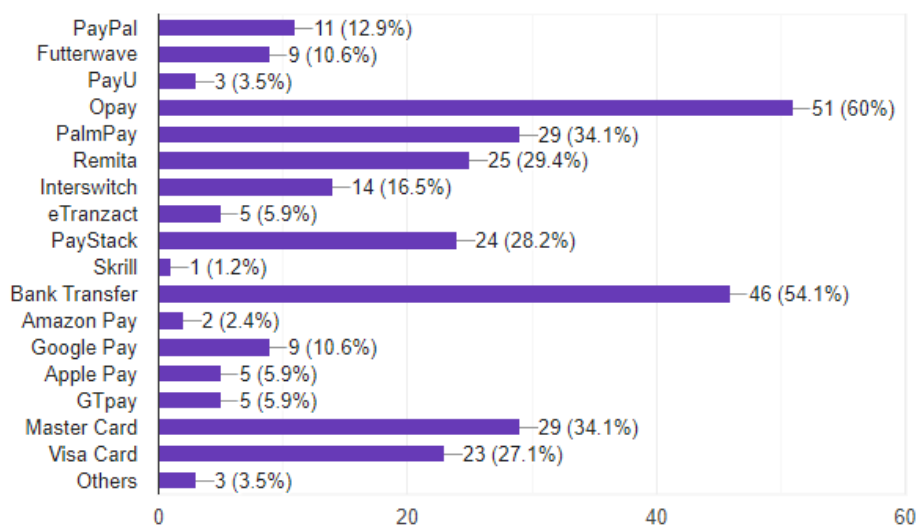


Figure 1: Which of these online payment systems have you used?

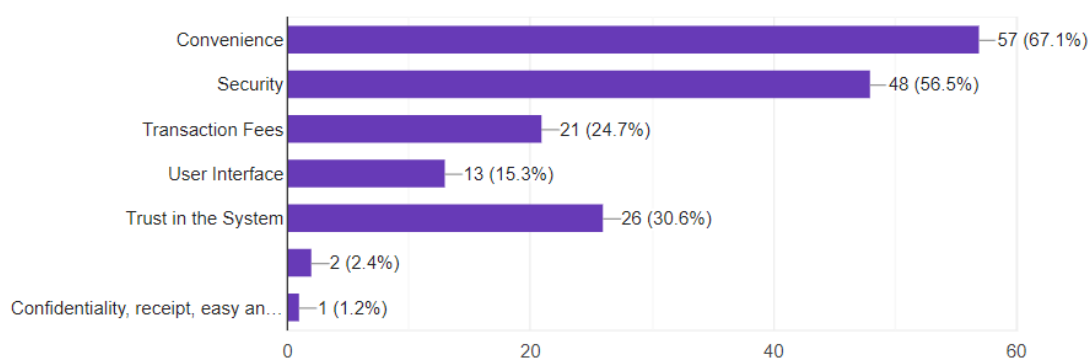


Figure 2: Which of these factors influences your decision to use online payment systems?

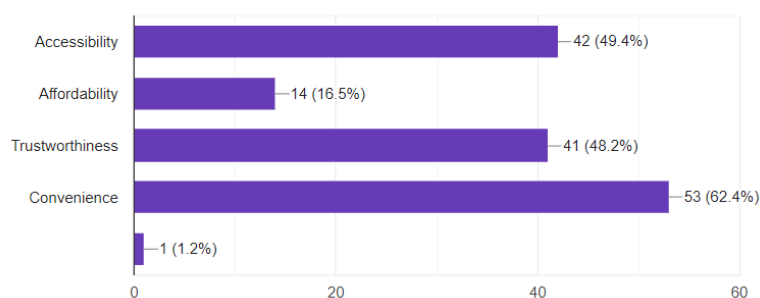


Figure 3: Which of the following factors do you consider important when using online payment systems in developing countries?

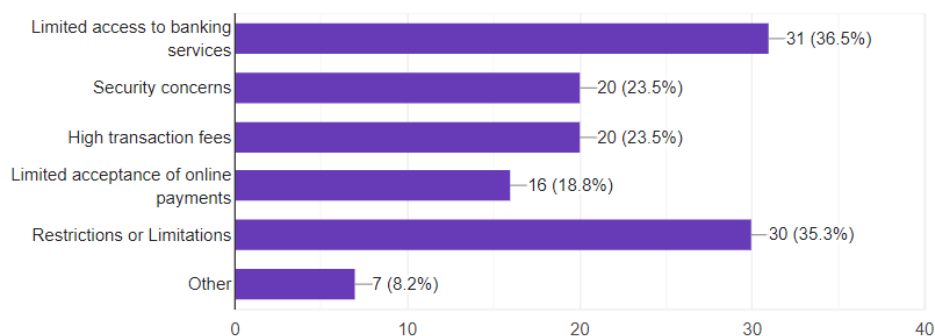


Figure 4: Which of these challenges have you encountered while using online payment systems if any?

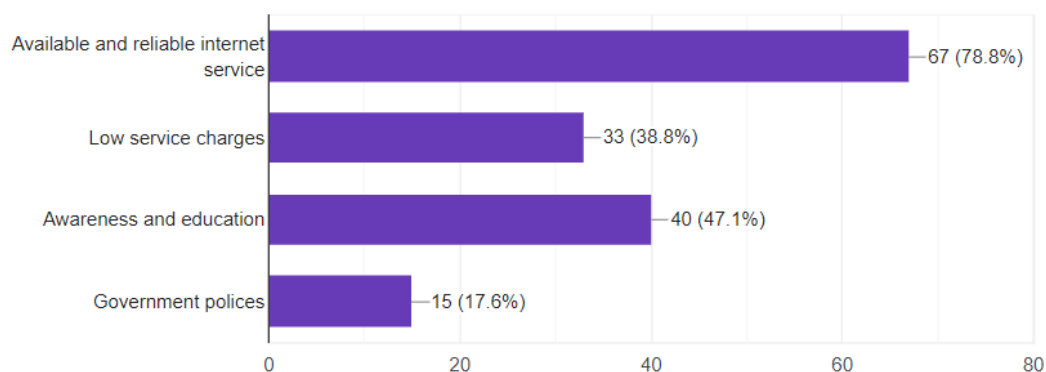


Figure 5: What factors do you believe will drive the increased adoption of online payment systems in developing countries?

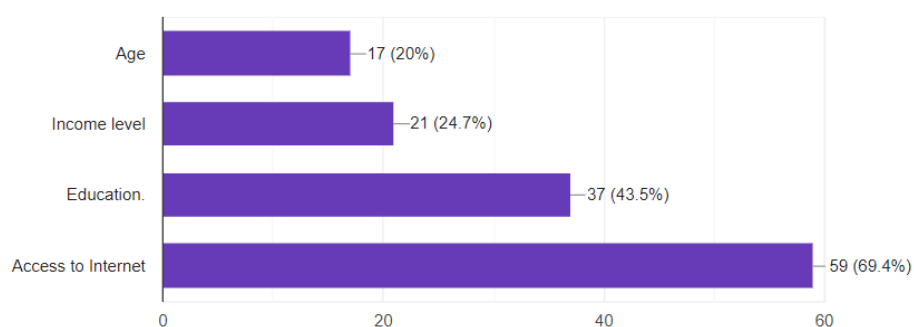


Figure 6: What are the factors that are more likely to affect online payment systems positively in developing countries?

Prospects of online payment system

- a) All the respondents according to Table 1, are in the practice of using online payments system for most of their financial transactions. 83.8% of the respondents frequently make use of online payment system, while 16.2% also uses online payment systems but rarely.
- b) From table 1, the most widely used option among the available online payment system is Bank Transfer with 48.1% of the respondents. The next preferred option is. Debit card represent 19.8%, which is closely followed by Mobile Wallet (17.3%). Credit Card option is 13.6% while other payment options are 1.2%.
- c) In Figure 1 with multiple choice question, 55.6% of the respondents, use Bank Transfer system. 61.7% of the same respondents uses Opay as well. This indicates that greater number of the people uses two or more options of online payment.
- d) Figure 3 shows that Accessibility, Convenience and security concerns are among the major reasons that make the respondents to use online payment.
- e) 53.1% of the respondents in Table 1 agreed that the reliability of the online payment system is high and this was closely supported by the 28.4%, which optioned the reliability as being normal.
- f) 77.8% respondents agreed that online payment systems are user-friendly and accessible for individuals with varying levels of digital literacy

Challenges associated with Online Payment system

- a) Figure 4 shows that all the respondents have encountered one form of challenge or the other while using the online payment system.
- b) Transaction failure is a common issue as represented by 88.8% of the respondents. Internet connectivity failure has equally been experienced by 81.5% of the respondents, according to Table 1
- c) The fees for online payment are considered higher than that of the traditional payment method, although not really very high as seen in Table 1

Factors affecting Online Payment System

- a) Government regulations/policies influence the adoption and effectiveness of Online Payment System. 79% of the respondents agreed to this claim, 14.8 were indifferent, while only 6.2% disagreed with the claim according to Table 1

- b) Cultural or Societal factors also affect adoption and usage of Online Payment System in developing countries. Table 1 showed that 55.6% of the respondents agreed to the assertion, 25.9% were indifferent while 18.5% said no to the assertion.
- c) The result shows that limited access to banking services is a plus for expansion of Online Payment systems. Table 1 showed that 81.5% agreed, 8.6% were indifferent, while 9.9% disagreed.
- d) The result also revealed that Online Payment systems can bring more benefits to individuals and businesses in developing countries. 97.5% of the respondents affirmed this claim while the remaining 2.5% were indifferent.
- e) The result also revealed that availability of affordable smartphones/devices and internet access will impact the adoption of online payment systems in developing countries (Table 1).
- f) Little above the average respondents (55.6%) agreed that partnerships between online payment providers, financial institutions, and other stakeholders can accelerate the adoption of digital payment solutions.
- g) The good aspect of Online Payment system is that it is believed to promote financial inclusion and access to banking services in under-served communities in developing countries (Table 1).
- h) Factors that could most likely drive the increased adoption of online payment systems in developing countries includes available and reliable internet service, awareness, and education

V. Findings

The result of the survey showed that 96.3 % of the 81 respondents, resides in developing country, only 3.7 resides in developed countries. This makes it a suitable sample group for the survey. The findings of the survey is presented under the following subheadings:

Prospects of Online Payment System in Developing Countries

The prospects of online payment systems in developing countries are promising, and these systems are expected to play a significant role in advancing financial inclusion, promoting economic growth, and fostering digital transformation. Several factors contribute to the positive outlook for online payment systems in developing countries:

- a) **Financial Inclusion:** Online payment systems provide a means for individuals who are unbanked or under-banked to access financial services. Mobile money and digital wallets offer convenient and affordable options for people who may not have easy access to traditional banking.
- b) **Mobile Penetration:** The widespread availability of mobile phones, even in remote areas, offers a foundation for the growth of mobile-based payment systems. Many developing countries have seen a rapid increase in smartphone adoption, enabling more people to participate in digital transactions.
- c) **Economic Growth:** Online payment systems contribute to economic growth by facilitating faster and more efficient transactions. This can stimulate business activities, support entrepreneurship, and contribute to the overall development of the digital economy.
- d) **Agent Banking:** Agent banking models, where local businesses or individuals act as agents to provide financial services, can help extend the reach of online payment systems to areas with limited banking infrastructure. This model will enhance accessibility for rural and underserved populations.
- e) **Improved Infrastructure:** Ongoing improvements in technology infrastructure, including expanded internet access and better connectivity, contribute to the increased adoption of online payment systems.
- f) **Changing Consumer Behavior:** As consumers become more digitally savvy, there is a shift in behavior toward adopting digital payment methods. Increased awareness and familiarity with online payment systems contribute to their acceptance and usage.
- g) **Partnerships and Collaborations:** Collaborations between financial institutions, fintech companies, telecommunications providers, and government agencies help create integrated financial ecosystems. Such partnerships contribute to the scalability and sustainability of online payment systems.
- h) **Global Trends:** Global trends, such as the rise of e-commerce, remote work, and the digitalization of services, create a conducive environment for the growth of online payment systems. These trends often transcend national borders and influence developing countries as well.
- i) **Increasing Internet Penetration:** As Internet access continues to expand in Africa, more people are gaining online connectivity, providing a foundation for online payment system adoption.
- j) **Rising Mobile Phone Usage:** The widespread use of mobile phones, particularly smartphones, has facilitated the growth of mobile-based payment systems. Mobile money services, such as M-Pesa in Kenya, have demonstrated the potential for convenient and accessible financial transactions.
- k) **Economic Growth and Urbanization:** Economic development and urbanization contribute to a growing middle class that demands convenient and secure payment options. Online payment systems can cater to this demand, providing a modern and efficient alternative to traditional payment methods.

- l) **Government Initiatives:** Governments in some African countries are recognizing the importance of digital financial inclusion. Initiatives to promote cashless economies, financial technology (fintech) startups, and regulatory frameworks that support online payment systems contribute to their growth.
- m) **Fintech Innovation:** Fintech startups are playing a crucial role in developing innovative solutions for online payments. These companies are creating user-friendly apps, secure platforms, and tailored financial products to meet the diverse needs of consumers in African countries.
- n) **Youth Demographics:** Africa has a young population, and younger demographics are generally more open to adopting new technologies. The tech-savvy youth are more likely to embrace online payment systems, leading to a gradual shift in consumer behavior.
- o) **Cross-Border Trade and Remittances:** Online payment systems facilitate cross-border trade and simplify remittance processes. With an increasing focus on regional economic integration, efficient cross-border payment solutions become crucial, and online platforms can address these needs.
- p) **Security and Trust Building:** As online payment systems improve security measures and build trust among users; more people are likely to embrace digital transactions. Addressing concerns related to fraud and data protection is essential for widespread adoption.

Constraints of online payment systems in developing countries

While online payment systems offer significant opportunities for financial inclusion and economic development in developing countries, several constraints need to be addressed for successful implementation and widespread adoption. Some of the key constraints include:

- a) **Limited Internet Access:** Many developing countries still have limited internet infrastructure, particularly in rural areas. This lack of access to reliable and affordable internet services hampers the widespread adoption of online payment systems.
- b) **Low Digital Literacy:** A significant portion of the population in developing countries may have low digital literacy, making it challenging for them to use online payment systems. Lack of familiarity with technology and digital interfaces can hinder adoption.
- c) **Smartphone Ownership:** While smartphone penetration is increasing, a considerable number of people in developing countries still use basic mobile phones. Mobile-based payment systems may not be as accessible to those without smartphones, limiting their reach.
- d) **Security Concerns:** Perceptions of insecurity regarding online transactions, including fears of fraud and identity theft, can be a significant barrier to adoption. Issues such as data breaches, identity theft, and fraud can undermine trust in these systems. Enhancing cyber security measures and educating users on safe practices are essential to address security concerns.
- e) **Limited Banking Infrastructure:** Many developing countries lack a robust banking infrastructure, which can affect the integration of online payment systems. Access to formal financial services is crucial for the success of digital transactions. Online payment systems often rely on bank accounts, making it challenging for those without banking access to participate in digital transactions.
- f) **Cash-Dependent Economies:** In some developing countries, cash remains the dominant payment method. Changing entrenched habits and moving towards digital transactions can be a slow process, and online payment systems need to accommodate cash-based solutions.
- g) **Regulatory Challenges:** Inconsistent or unclear regulatory frameworks can create challenges for the growth of online payment systems. Regulations that are not adapted to the rapidly evolving fintech landscape may hinder innovation and market entry. A lack of clear regulations or regulatory barriers can impede the growth of online payment systems and discourage investment in the sector.
- h) **Interoperability Issues:** The payment ecosystem in some countries may be fragmented, with various payment methods, providers, and standards. Lack of interoperability between different online payment systems and financial institutions can limit the seamless transfer of funds. This can be a barrier to providing users with a comprehensive and integrated financial experience.
- i) **Infrastructure and Power Challenges:** Unreliable electricity and technology infrastructure can disrupt online payment services. Power outages and inadequate technology infrastructure in some areas can impact the reliability of these systems.
- j) **Limited Merchant Acceptance:** For online payment systems to be effective, a broad network of merchants must accept digital payments. A shortage of merchants accepting online payments can limit the usability of online payment systems. Encouraging businesses to adopt digital payment methods is essential for creating a comprehensive ecosystem.
- k) **Cultural and Behavioral Barriers:** Cultural preferences and traditional payment behaviors may present barriers to the adoption of online payment systems. Overcoming these cultural barriers requires understanding local preferences and adapting payment solutions accordingly.

- l) Cost of Transactions: Where the cost of accessing and using online payment systems, including transaction fees is high, it could become a barrier, especially for low-income individuals. Some users may find the fees associated with online transactions, such as transaction charges or currency conversion fees, to be a deterrent. Making online payments affordable is crucial for encouraging adoption.
- m) Fraud and Cyber security Risks: Developing countries may be more susceptible to cyber security threats and fraudulent activities due to inadequate security measures. Implementing robust security protocols is essential to safeguard users' financial information.

VI. Conclusion

The prospects of online payment systems in developing countries are promising, and these systems are expected to play a significant role in advancing financial inclusion, promoting economic growth, and fostering digital transformation. Continued innovation, investment in infrastructure, and collaboration between stakeholders will be crucial for the successful integration of these systems into the financial landscapes of developing nations. While the prospects of Online payment system in developing countries are positive, challenges such as limited internet access, cybersecurity concerns, and regulatory hurdles need to be addressed to fully realize the potential of online payment systems in developing countries. Addressing these challenges requires a multi-stakeholder approach involving governments, financial institutions, technology providers, and regulatory bodies. Efforts should focus on improving infrastructure, enhancing digital literacy, creating supportive regulatory environments, and building trust in online payment systems to unlock their full potential in developing countries.

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