Review article

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Reviewing the Challenges of Mobile Wallet Usage in Somalia's Digital Financial Ecosystem

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Abstract

Objectives:

This review aims to explore the major challenges confronting mobile wallet users in Somalia within the context of the country's evolving digital financial ecosystem. The study specifically focuses on understanding user satisfaction levels and identifying the key barriers preventing wider adoption and effective utilization of mobile wallet services.

Methodology:

The study used a qualitative review technique, combining results from peer-reviewed publications, policy papers, and institutional reports. The literature was drawn from academia databases including Google Scholar, JSTOR, and World Bank repositories. A thematic approach was utilized to organize and evaluate data on user experience, technological infrastructure, market dynamics, and financial literacy in Somalia's mobile wallet industry.

Findings:

According to the review, mobile wallets have made it much easier for people in Somalia to access financial services, particularly in the absence of official banking, but a number of challenges still exist. These include a general lack of financial literacy, inadequate consumer protection frameworks, and a lack of interoperability across various service providers. Although awareness and security features are directly linked to customer satisfaction and trust, many users continue to rely on a single mobile wallet platform because of habit, market dominance, or a lack of knowledge about other options.

Conclusion:

Mobile wallets in Somalia have become vital tools for financial inclusion and resilience, but their full potential remains unrealized due to ongoing systemic and user-level challenges. Addressing these issues requires a holistic approach that balances innovation with regulation and infrastructure development.

Recommendations:

To enhance the adoption and effective use of mobile wallets in Somalia, the following steps are essential:

- Educational Programs: Promote financial literacy and digital training, especially in local languages.
- Interoperability: Encourage system-wide integration across service providers.
- ➤ Infrastructure Investment: Expand reliable network access in rural and underserved areas through public-private partnerships.

Keyword: Mobile, Wallet, Money, Financial, Services, Somalia

Background of the Study

Financial services (FS) have revolutionized the way financial transactions are conducted globally, particularly in regions with limited access to traditional banking infrastructure. The development of FS can be traced back to the early 2000s,

with the advent of mobile money services such as M-PESA in Kenya and Easy paisa in Pakistan. These pioneering initiatives paved the way for the widespread ad option of FS worldwide (Jack & Suri, 2014). A digital wallet holds a user's financial details and website passwords safely (Jose, 2019). Similarly, Digital wallets can be used with mobile payment systems to make Smartphone purchases (Jose,

2019). Digital wallet allows you to pay your bill electronically, online and offline. For example, if you went to the store, bought some products, and then paid your bill, you can do so (Balan & Ramasubbu, 2009). According to Anderson et al. (1994), companies that strive for high customer satisfaction are more likely to receive larger economic returns. Africa has been at the forefront of FS innovation, driven by factors such as rapid mobile phone penetration and the need to address financial exclusion. Mobile money platforms, such as M-PESA and MTN Mobile Money, have transformed the continent's financial landscape, enabling millions of people to access formal financial services (Mas &Ng'weno, 2016).

The proliferation of FS has prompted regulatory bodies to develop frameworks to ensure the stability and security of these services. Initiatives such as the Guidelines for Mobile Money Services by the Central Bank of Kenya and the Mobile Money Regulations in Somalia have played a crucial role in shaping the FS landscape (Central Bank of Kenya, 2018). Studies have shown that FS has helped reduce poverty, improve access to credit, and empower marginalized communities (Demirgüc-Kunt et al., 2018). In Somalia, the absence of as table central government and traditional banking infrastructure created fertile ground for the rapid adoption of mobile money services. Following the collapse of the central government in 1991, Somalia's formal banking sector disintegrated, leading to the emergence of informal money transfer systems, commonly known as "hawalas." These systems played a crucial role in facilitating remittances from the Somali diaspora (Hassan & Chalmers, 2015). By 2018, over 70% of Somali adults were using mobile money services, highlighting its wide spread ad option(WorldBank,2018).Companies like Hormuud Telecom and Telecom introduced innovative mobile money platforms like EVC Plus and Zaad, revolutionizing financial transactions in the country (Mohamoud, 2014). Similar companies like IBS bank introduced new E-money in Somalia, The product was designed to offer a wide range of services, including mobile banking, fund transfers, bill payments, and merchant transactions. Its user-friendly interface and robust security features ensured seamless and secure transactions for customers, (IBS Bank, n.d.). The Central Bank issued its first set of mobile money regulations in 2014, aiming to standardize and oversee the growing sector (Ahmed, 2017). Mobile money services gained popularity, the Central Bank of Somalia began developing regulatory frameworks to ensure their stability and security. Initial regulations were issued in 2014, with subsequent enhancements in 2016 to promote financial inclusion and consumer protection (Central Bank of Somalia, 2018). In accordance with Mobile money platforms competition, the introduction of eBesa has had a transformative impact on

financial inclusion in Somalia. By providing a digital platform for financial transactions, eBesa Mobile is expected to extend the reach of banking services to previously underserved populations, empowering them with access to formal financial services (Alietal, 2019). Therefore, this study reviewing the Challenges of Mobile Wallet Usage in Somalia's Digital Financial Ecosystem.

Problem statement

In today's digital era, the increasing reliance on mobile money services has revolutionized financial transactions, offering convenience and accessibility to millions. However, despite its widespread ad option, several persistent issues continue to hinder its seamless operation and widespread acceptance. People were using paper money, which is associated with many problems, some paper currencies may be loading problems, security problem, and some paper money maybe refused because of tear and long term using, and time savings very low and inefficient. Somalia's digital mobile money service landscape traces back to the early 2000s when pioneering mobile network operators, such as Hormuud Telecom, launched mobile money platforms like EVC Plus. These platforms aimed to provide convenient and accessible financial services to a population largely underserved by traditional banks due to decades of conflict and instability.

Over time, other operators like Telesom's Zaad and Golis Telecom's Golis Wallet, WAAFI by Hormuud, Dahab+ by Dahabshil group, eBesa wallet by IBS, Premier wallet, T+ by SOMBANK and Mycash by Amal bank emerged, contributing to the diversification and growth of the digital mobile money eco system in Somalia. In contrast, a significant portion of Somalia's population lacks adequate financial literacy, inhibiting their ability to fully leverage digital mobile money services for financial empowerment and inclusion, Fatima Abdullahi Ahmed, (2023). Currently, Mobile wallets in Somalia are facing critical challenges related to user acceptance and marketing. Many individuals have become accustomed to using a single mobile wallet, which limits their willingness to adopt alternative options. Additionally, inadequate marketing efforts have resulted in low awareness and visibility of mobile wallet services. These issues hinder the overall growth and potential of mobile wallets in Somalia. Based on this, this research reviews the Challenges of Mobile Wallet Usage in Somalia's Digital Financial Ecosystem

Research objectives
Main of objectives

The main objective of this is to review the Challenges of Mobile Wallet Usage in Somalia's Digital Financial Ecosystem

Specific objectives

- To explore customer Satisfaction with using Mobile Wallet
- The main challenges prevent Customers from using Mobile Wallet more frequently

Research questions

- ➤ What is the customer Satisfaction with Mobile Wallet in Somalia?
- ➤ What are challenges prevent Customers from using Mobile Wallet more frequently?

Related Work

Global Insights on Mobile Money

Mobile money has been transformative in several other countries as well. Blumenstock et al. (2015) examined the impact of M-Paisa in Afghanistan and found that it significantly reduced salary payment expenses and encouraged workers to save more. Similarly, Gutierrez and Singh (2013) emphasized the importance of mobile money in enhancing consumer protection and increasing financial access in rural areas. Blumenstock, Eagle, and Fafchamps (2016) discovered that mobile transfers, although often small, tended to increase the wealth of recipients while slightly diminishing that of senders. In accordance with Jack and Suri (2014), found that mobile money users demonstrated resilience in the face of financial shocks. Unlike non-users, they maintained stable consumption levels during periods of income instability. Moreover, Weiletal. (2012) highlighted the positive correlation between mobile money use and indicators of education and affluence, demonstrating that mobile money can play a crucial role in fostering financial literacy.

Despite challenges related to security, interoperability, and literacy, mobile money has increased financial inclusion for millions of people who were previously underserved. By allowing individuals to access financial services through their phones, mobile money has reduced the risk associated with physical banking, contributed to poverty alleviation, and fostered economic resilience. As mobile money services continue to evolve, their role in advancing financial access and promoting economic development will likely become even more critical, especially for populations at the bottom of the economic pyramid. Further research and development in mobile money systems, alongside collaboration between telecoms and financial institutions, are essential to

overcoming existing challenges and maximizing the potential of mobile money across the continent.

Mobile Money in Africa: Growth, Challenges, and Impact

Mobile phone payments have revolutionized the financial landscape across Africa, emerging as one of the most popular methods for sending and receiving money, especially for populations in rural and under banked areas. In countries where formal banking Infrastructure is sparse, mobile money serves as a critical tool to bridge the financial gap. Studies by Ayo, Ukpere, Oni, Ometo, and Akinsiko (2012), as well as Mangudla (2012), highlight how mobile money transfer (MMT) services allow financial transactions to be conducted via mobile phones, providing access to banking for populations traditionally excluded from formal financial systems. The history of mobile money transfer is rooted in collaborations between the telecommunications and banking sectors, which jointly facilitate these services (Ayoetal., 2012). At its core, mobile money operates as a system that converts money into data—information on who owes what to whom. As Klein and Mayer (2011) note in their World Bank report on mobile money and microcredit, the underlying concept of mobile banking (m-banking) is the digitization of financial transactions, which transformative potential for poverty alleviation and entrepreneurship. Access to financial services via mobile money offers the opportunity to expand financial inclusion, especially for underserved populations.

A study evaluating 22 countries found that mobile technology has a significant role in expanding access to banking services at the base of the economic pyramid (Gas, 2017). Kenya has been a pioneer in mobile money adoption, with 89% of its population utilizing the service. Other African countries like Rwanda (75%) and South Africa (80%) have also seen rapid growth in mobile money usage, emphasizing the wide spread adoption of mobile financial services across the continent. In regions with similar challenges, such as Brazil (78%), Chile, Colombia, and Turkey, mobile money is equally transformative. Despite its rapid growth, mobile money faces several challenges in Africa. One major concern is regulatory oversight, as inconsistent legal frame works can hamper the expansion of mobile money services. The lack of strong consumer protection laws, fraud risks, and cyber threats are also pressing issues. Furthermore, in some regions, mobile money service providers face infrastructure challenges, particularly in rural areas where mobile network coverage can be unreliable. Therefore, Mobile money continues to play a crucial role in financial inclusion across Africa,

particularly for the unbanked population in rural areas. By offering a convenient, accessible, and low-cost platform for financial transactions, mobile money empowers individuals to save, invest, and participate in the formal economy. In countries like Somalia, where traditional banking is limited, mobile money has filled a critical gap, Providing both urban and rural populations with access to essential financial services. The continued collaboration between telecommunications and banking sectors will be key to overcoming existing challenges and unlocking the full potential of mobile money on the continent.

The Rise of Mobile Money in Somalia

Hormuud Telecom's EVC Plus, introduced in 2011–2012, quickly became Somalia's dominant mobile money service serving roughly three million users by 2021 and enabling about two-thirds of all payments in the country every month, totaling \$2.7 billion in transactions. Operating like SMSbased digital cash, it remains free at the point of use and offers person-to-person transfers, airtime and data top-ups, merchant payments, and account management without internet access. In 2021 the Central Bank granted Hormuud Somalia's first mobile money license, formalizing EVC Plus under regulation and boosting user trust and international recognition. Since then, Hormuud has expanded EVC Plus by launching the WAAFI app Somalia's one of indigenous app integrating mobile money with banking, international remittances, QR-based merchant payments, and a digital Mastercard option. In 2024 it rolled out interoperability with local banks (MyBank, Agro Bank), enabling seamless bank-wallet transfers and basic banking services via the wallet.

However, concerns regarding the safety and reliability of mobile money services persist. These issues stem from the lack of formal "Know Your Customer" (KYC) requirements and interoperability challenges between different mobile money providers, which has led to trust issues among users (World Bank Blogs, 2017; The Somalia Investor Magazine, 2021). Despite high illiteracy rates, mobile money services have thrived in Somalia. The country's limited traditional banking infrastructure has forced many to adopt digital solutions out of necessity. Mobile money services have also facilitated collaboration between telecommunication companies and financial institutions. For example, the collaboration between mobile money providers and banks like Salaam Bank, Dahabshiil Bank, IBS BANK, Premier Bank, Amal Bank and hawala companies allows customers easy access to their accounts (Moallim, 2016). When Somtel launched in late 2014, its mobile money service, E-Dahab, established a direct link with Dahabshiil Bank, further enhancing financial access (Gas, 2017).

The launch of mobile money by telecom companies has dramatically increased financial inclusion in Sub-Saharan Africa. Upadhyay and Jahanyan (2015) found that mobile money services, which provide basic financial functions such as withdrawals and deposits, have significantly boosted financial access among the low-income population. Jonathan & Camilo (2008) also noted that mobile money has transformed the lives of many rural inhabitants by increasing their access to financial services. Kumar, Martin, and O'Neill (2011) similarly argue that mobile money enables individuals and businesses to make. Payments without relying on traditional bank accounts, thereby amplifying financial inclusion for the poor. McKay and Pickens (2010) observed that mobile money networks reduced the cost of banking services, making financial services more accessible to underserved populations.

The adoption of mobile money in Somalia has had farreaching impacts on the economy. According to a World Bank study (2015a), 37% of Somali adults utilize mobile money for various transactions. Since 2014, international non-governmental organizations (NGOs) have used mobile money to distribute emergency funds across the country (Orozco &Yansura, 2016). This has minimized the risk associated with traveling to banks or waiting in long lines, particularly in Somalia's unstable political climate. Mobile wallets have revolutionized financial transactions in Somalia, providing essential services to a largely unbanked population. However, the growth and adoption of these services face several challenges. Key issues include limited interoperability between different mobile wallet services, low levels of consumer trust due to security concerns, and insufficient regulatory frameworks.

For instance, the lack of interoperability means that users of one mobile wallet service often cannot easily transact with users of another service. This situation is exemplified by the challenges faced by products like **eBesa** from IBS Bank and **Premier Wallet** by Premier Bank, where customers may find it difficult to send or receive money across different platforms. The fragmentation of services hinders broader financial inclusion, as users might be reluctant to adopt new wallets if they perceive a lack of connectivity with existing services. Security concerns are another significant barrier.

Furthermore, the lack of financial literacy among a substantial portion of the population contributes to the slow uptake of mobile wallets. Many potential users are unfamiliar with how to use these services effectively or do not fully understand their benefits. Educational initiatives are crucial in addressing this gap, helping to build user confidence and promoting the adoption of mobile wallet

services. In addition to these challenges, the political instability and ongoing security issues in Somalia create an unpredictable environment for mobile wallet providers. Companies like Golis Telecom and Telesom have managed to establish successful services amid these challenges, but the broader market remains sensitive to changes in the sociopolitical landscape. To overcome these obstacles, solutions must be multifaceted. First, promoting interoperability between different mobile wallet services could enhance user experience and foster wider adoption. Collaborations among providers, including banks and telecom companies, could facilitate seamless transactions across platforms, increasing consumer trust and encouraging usage.

For instance, the integration of services like WAAFI with other wallets could improve access and usability for consumers. Second, implementing stronger regulatory frameworks that enforce KYC practices can help build trust. Regulators need to ensure that mobile wallet providers adhere to security protocols, safe guarding user information and funds. Enhanced security features, such as two-factor authentication and transaction monitoring, can further reassure users about the safety of their funds. Lastly, educational programs aimed at improving financial literacy can empower users to make informed decisions about mobile wallet adoption. Initiatives by banks, such as those provided by Premier Bank and Amal Bank, can offer workshops and digital literacy training, demystifying mobile wallet services for potential users. By 2017, about 37.1% of Somali adults had mobile money accounts (Sawe, 2017). Thus, while mobile wallets in Somalia hold immense potential for enhancing financial inclusion, addressing the challenges of interoperability, security, and financial literacy is crucial. By fostering collaboration among service providers and focusing on user education, Somalia can create a more robust ecosystem for mobile financial services, ultimately leading to greater economic empowerment for its population.

Understanding New Product Failures and Success

New product development (NPD) is fraught with risks, and failure rates are alarmingly high. According to Kotler & Keller (2012), new products fail approximately 50% of the time, while other estimates suggest that failure rates can be as high as 95% in the United States and 90% in Europe. Thomas (2001), CEO of Nissam Motor Corporation, corroborates this by citing a study from Amoco Chemical, which revealed that out of 100 products launched in the market, only four garnered significant customer interest. Castellion and Markham (2012) also recognize that failure rates are often claimed to be around 80%, but empirical

studies conducted with business practitioners across various industries have found failure rates closer to 40%. Despite variations in these statistics, it is clear that the risk of product failure in the market place remains significant. One of the key reasons behind this high failure rate is the lack of a solid foundation in scientific knowledge on the methodologies necessary for developing high-quality product concepts (Guzik, 2023). Even with wide spread access to information, few companies rigorously researcher apply advanced product development methodologies. This oversight often leads to products that fail to resonate with their target market or lack the innovation needed to stand out. To mitigate these risks, companies must adopt structured and methodical approaches to NPD. The document titled New Product Development Process (Bashir, 2022) outlines such a process, using McDonald's Aloo Tikki Burger as an example of successful adaptation to local market needs in India. This case demonstrates the effectiveness of applying a systematic development process to minimize failure and ensure product-market fit.

The New Product Development Process of McDonald's Aloo Tikki Burger:

- 1. **Idea Generation**: McDonald's recognized that their traditional beef or mutton burgers were not appealing to India's predominantly vegetarian population. This realization led to the idea of a vegetarian burger using mashed potatoes, a staple in Indian cuisine.
- 2. **Idea Screening**: The Company filtered through various ideas and selected the Aloo Tikki Burger concept due to the popularity of potatoes in Indian dishes.
- 3. Concept Development and Testing: McDonald's developed the Aloo Tikki Burger as a patty made from potatoes and peas, seasoned with Indian spices. The product was tested to ensure it met local taste preferences and cultural norms.
- 4. Marketing Strategy Development: McDonald's targeted young Indian consumers who value both affordability and quality. Two pricing strategies were adopted: Branded Affordability (BA) for low-cost products like the Aloo Tikki Burger and Branded Core Value (BCV) for higher-end products.
- 5. **Business Analysis**: McDonald's conducted research on potential sales, supply chain logistics, and cold chain infrastructure to support the Aloo Tikki Burger launch in India.

- 6. **Product Development**: The burger was developed using traditional Indian ingredients and spices, and was refined based on taste tests to appeal both functionally and emotionally to consumers.
- Test Marketing: McDonald's tested the Aloo
 Tikki Burger with target demographics such as
 office workers and college students, ensuring
 the product performed well before a full-scale
 launch.
- 8. **Commercialization**: The Aloo Tikki Burger was successfully launched in India, supported by promotional campaigns aimed at middle-class families. The product became a hit, with 9 out of 10 consumers expressing satisfaction.

Therefore, the case of McDonald's Aloo Tikki Burger demonstrates the importance of a well-structured NPD process. From idea generation to commercialization, McDonald's ensured that the product met local consumer preferences, highlighting the critical role of market research, cultural understanding, and product testing in the success of new products. By following such a structured process, companies can significantly reduce the risks associated with product failures and better meet the demands of their target markets. This case study aligns with the broader literature that emphasizes the importance of a systematic approach to NPD. Companies that fail to invest in research and development methodologies often face higher risks of market failure, while those that adapt their products to fit local consumer preferences, as McDonald's did, are more likely to succeed

Further research into product development strategies and consumer behavior is crucial for reducing the high rate of product failures in competitive markets.

Methodology

This study employed a qualitative review methodology to synthesize existing literature on the challenges associated with mobile wallet usage in Somalia. The review focused on identifying, analyzing, and summarizing relevant academic articles, reports, and policy documents published within the last 10 years. A systematic literature search was conducted using academic databases such as Google Scholar, ResearchGate, JSTOR, and World Bank repositories. Key search terms included "mobile wallets in Somalia," "digital financial services," "financial inclusion," "mobile money challenges," and "user satisfaction with digital wallets."

Sources were selected based on relevance, credibility, and their contribution to understanding customer experiences, adoption barriers, and the socio-economic context of mobile money in Somalia. Priority was given to peer-reviewed journals, institutional reports, and empirical studies conducted in Sub-Saharan Africa. The findings were organized thematically to provide a comprehensive overview of user challenges, including issues of interoperability, security, literacy, regulation, and trust. The review approach allows for an in-depth understanding of both the practical and policy-level obstacles that hinder broader adoption of mobile wallets in the Somali financial ecosystem

Analysis

According to a survey of the literature, researchers believe that mobile wallets have altered global financial inclusion, especially in places with weak banking infrastructure. Pioneering services such as M-PESA in Kenya and Easy paisa in Pakistan are frequently referenced (Jack & Suri, 2014; Mas & Ng'weno, 2016), highlighting how mobile money may help to transcend economic disparities. Following decades of violence in Somalia, Hassan and Chalmers (2015) and Mohamed (2019) indicate that mobile money became the primary financial instrument in the absence of established banking systems. Most experts believe that mobile wallets have a number of advantages, including increased accessibility, lower transaction costs, and more financial inclusion. However, they continuously emphasize issues such inadequate financial literacy (Fatima, 2023), a lack of interoperability (World Bank, 2017), security threats (Gas, 2017), and weak regulatory control (Central Bank of Somalia, 2018). Some research offer a user-centric viewpoint. For example, Kar (2020) and Vinitha & Vasantha (2018) prioritize user pleasure, emphasizing the importance of trust, convenience of use, and awareness in adoption. Others, such as Klein and Mayer (2011) and Upadhyay and Jahanyan (2015), adopt a systemic approach, focusing on infrastructure, technological hurdles, and coordination between telecom and financial institutions.

What separates Somalia's situation is the quick expansion of mobile wallet services in the face of acute sociopolitical instability. This difference highlights the persistence and adaptability of informal economies. According to my perspective as a researcher, the Somalia experience shows that although mobile wallets help alleviate financial exclusion, they need more than just technological fixes to be sustainable over the long run. They also need cross-platform compatibility, user education, and a solid institutional foundation.

Discussion

While some researchers cite technological challenges like

interoperability or network limits, others point to underlying societal concerns like financial illiteracy and user reluctance. Interoperability is perceived as a particularly significant concern in Somalia. Users are frequently limited to a particular platform, rendering cross-network transactions inefficient. This leads to market fragmentation and hinders competition. This monopolistic usage pattern, in my opinion, is caused by not just technological limits, but also by user habits and a lack of public awareness of alternatives. The research also illustrates that regulation acts as both a motivator and a barrier. While rules are intended to protect consumers and guarantee stability, in Somalia, delayed and sometimes confusing policies have resulted in gaps in consumer protection and slowed innovation. However, successful examples from Kenya and Rwanda demonstrate how strong institutional control, along with private sector innovation, may greatly boost service usage and confidence. Furthermore, financial literacy is a common subject. Despite the widespread usage of mobile wallets, consumers frequently lack awareness of sophisticated services such as digital savings, Data, and bill payments. Knowledge interventions may enable consumers to fully utilize these services, increasing both their economic potential and the digital financial ecosystem. Finally, the future of mobile wallets in Somalia rests on various interventions: improving infrastructure, harmonizing legislation, fostering interplatform collaboration, and investing in user knowledge

Conclusion

Mobile wallets have emerged as a lifeline in Somalia, providing access to financial services in a nation where traditional banking has been limited or nonexistent for decades. They have been ingrained in daily interactions, ranging from corporate payments to humanitarian relief distribution. Despite their fast expansion, these services confront ongoing obstacles. According to the research, the primary challenges to long-term use include security issues, a lack of interoperability, poor user education, and weak regulatory frameworks. The comparative research of regional and international settings indicates that these difficulties are not unique to Somalia, but rather exacerbated by the country's weak sociopolitical situation. researcher, I have concluded that the primary problem is not the technology itself, but its poor public awareness. Mobile wallets have demonstrated their ability to survive in the most challenging conditions, but in order to continue pace, Somalia must create a more cohesive ecosystem around these services. This involves improved rules, more infrastructure, and more digital and financial knowledge. To guarantee that mobile wallets continue to be tools of empowerment rather than sources of confusion or risk, the future road must be comprehensive and inclusive.

Recommendations

Educational Initiatives: Launching educational programs to inform users about the Mobile Wallet's functionalities can significantly enhance user engagement

Mobile wallet providers: must prioritize user education. This can include simplified user manuals in Somali, interactive apps with tutorial modes, and partnerships with local NGOs or schools to run digital finance literacy programs.

Interoperability should be mandated or incentivized: ensuring seamless transactions between different service providers. This will enhance competition, reduce user dependency on a single platform, and increase financial inclusion. Collaboration between telecom companies and banks must also be deepened to offer integrated services

Investment in mobile infrastructure: especially in rural and underserved areas, is essential. Governments, donors, and private investors should work together to expand network coverage and reduce service interruptions.

References

- 1. African Journal of Business Management, 6(6), pp. 2195-2201. DOI: 10.5897/AJBM11.2213.
- 2. Ali, A., (2019). Blockchain for Financial Inclusion: Opportunities and Challenges in Somalia. Journal of Technology in Society, 58, 101-110.
- 3. Anderson, E., Fornell, C., & Lehmann, D. (1994). Customer Satisfaction, Market Share, and Profitability: Findings from Sweden. *Journal of Marketing*, 58(3), 53-66.
- 4. Ayo C. K, Ukpere W. I., Oni A., Omote U, & Akinsiku, D. (2012). A prototype mobile money implementation in Nigeria.
- Ayo, C. K., Ukpere, W. I., Oni, A. A., Ometo, J. O., & Akinsiko, S. A. (2012). The Role of Mobile Money in Financial Inclusion in Africa.
- 6. Balan, R., & Ramasubbu, N. (2009). The digital wallet: Opportunities and prototypes. *Computer Network*, 42, 100-102.
- 7. Bashir, Muhammad. (2022, October 3). *Discussing* the product by using the 'New Product Development Process'.
- 8. Blumenstock, J. E., Eagle, N., & Fafchamps, M. (2016). Airtime transfers and mobile communications: Evidence in the aftermath of

- natural disasters. Journal of Development
- 9. Blumenstock, J. E., M. Callen, T. Ghani, and L. Koepka. (2015). "Promises and Pitfalls of Mobile Money in Afghanistan: Evidence from a Randomized Control Trial." The 7th IEEE/ACM International Conference on Information and Communication Technologies and Development (ICTD' 15).
- Castellion, G., & Markham, S.K. (2012). Perspective: new product failure rates: influence of argumentum ad populism and self-interest. Journal of Product Innovation Management, 30(5), 976– 979. https://doi. org/10.1111/j.1540-5885.2012.01009.x.
- Central Bank of Kenya. (2018). Guidelines for Mobile Money Services. Central Bank of Somalia. (2018). Annual Report on Mobile Money Services.
- Demirgüç-Kunt, A., Klapper, L., Singer, D., & Van Oudheusden, P. (2018). The Global Findex. Database 2017: Measuring Financial Inclusion and the Fintech Revolution. World Bank Policy Research Working Paper No. 8443.
- 13. Economics, 120, 157–181. doi:10.1016/j.jdeveco.2016.01.003
- 14. Elmi, M., & Ngwenyama, O. (2019). The role of mobile money in Somalia's remittance system. In HCI in Business, Government and Organizations. eCommerce and Consumer Behavior: 6th International Conference, HCIBGO 2019, Held as Part of the 21st HCI International Conference, HCII 2019, Orlando, FL, USA, July 26-31, 2019, Proceedings, Part I 21 (pp. 119-136). Springer International Publishing
- Fatima Abdullahi Ahmed, "Enhancing Financial Literacy for Improved Adoption of Digital Mobile Money Services in Somalia," International Journal of Financial Studies, vol. 5, no. 4, pp. 67-78, 2023.
- 16. Gas, S. (2017). Mobile Money and Microfinance: Opportunities and Challenges in Somalia.
- 17. Gas, S. (2017). Mobile money, cashless society and financial inclusion: case study on Somalia and kenya. Cashless Society and Financial Inclusion: Case Study on Somalia and Kenya (July 15, 2017)
- 18. Guzik, A. (2023). Overview of new product development strategies and models. *Catallaxy*, 8(1), 21-34.
- Hassan, M., & Chalmers, G. (2015). Digital Financial Services in Fragile States: The Case of Somalia. Development in Practice, 25(8), 1140-1152.

- 20. IBS Bank (n.d.). eBesa
- 21. Jack, W., & Suri, T. (2014). Mobile Money: The Economics of M-PESA. NBER Working Paper No. 16721.
- 22. Jack, W., & Suri, T. (2014). Risk sharing and transactions costs: Evidence from Kenya's mobile Jonathan, D., & Camilo, T. (2008). Mobile banking and economic development: Linking Adoption, impact and use. Asian Journal of Communication, 18(4), 318–322.
- 23. Jose, G. (2019). Evaluating the growth, adoption and practices of mobile wallet. Christ University, Department of Commerce. Bengaluru: Christ University.
- 24. Kar, A. K. (2020, July). What Affects Usage Satisfaction in Mobile Payments? Modelling User Generated Content to Develop the "Digital Service Usage Satisfaction Model". Information Systems Frontiers. Doi: 10.1007/s10796-020-10045-0
- 25. Klein, A., & Mayer, C. (2011). Mobile Money: The Future of Financial Services.
- Klein, M., Mayer, C. 2011. 'Mobile Banking and Financial Inclusion: The Regulatory Lessons.' World Bank Policy Research Working Paper Series.
- Kotler, P., Keller, K. (2012). Marketing. Rebis. Łuczak, M. (2009). Polityka produktu. In W. Żurawik (Ed.), Marketing: podstawy i kontrowersje (pp. 121–158). Uniwersytet Gdański.
- 28. Kumar, D., Martin, D., & O'Neill, J. (2011), "The times they are changing': Mobile payments inIndia", Proceedings of the SIGCHI Conference on Human Factors in Computing Systems, pp. 1413–1422, ACM, Vancouver, BC.
- 29. Manandhar, R. B., & Shrestha, S. K. (2020). Customer Satisfaction towards Digital Wallets during Covid-19 Pandemic in Kathmandu Valley.
- 30. Mas, I., & Ng'weno, N. (2016). Mobile Payments Go Viral: M-PESA in Kenya. Innovations, 2(1-2), 123-141.
- 31. McKay, C., and M. Pickens. 2010. Branchless Banking 2010: Who's served? At What Price? What's next? CGAP focus note 66. Washington, DC: World Bank Group.
- 32. Mohamed A. M., 2019. The impact of mobile banking on economic development in Puntland-Somalia. International Journal of Contemporary Applied Researches Vol. 6, No. 12, December 2019 (ISSN: 2308-1365). Retrieved on 06 April 2020. Available at:

http://www.ijcar.net/assets/pdf/Vol6-No12-December2019/6.-The-Impact-of-Mobile-Banking- on-Economic-Development-in-Puntland Somalia.pdf

- 33. Mohamoud, I. (2014). The Mobile Money Revolution in Somalia. Journal of African Economies, 23(4), 581-595.
- 34. Money revolution. American Economic Review, 104(1), 183–223. doi:10.1257/aer.104.1.183.
- 35. Nag, A. K., & Gilitwala, B. (2019, November). E-Wallet- Factors Affecting Its Intention to Use. International Journal of Recent Technology and Engineering, 8(4), 3411-3415. doi:10.35940/ijrte.D6756.118419
- 36. Sawe.(2017, March 15). The Use of Cell Phones to Transfer Money in Modern Africa. Retrieved from http://www.worldatlas.com/articles/the-use-of-cell-phones-to-transfer-money-in-modern-africa.html
- 37. Thomas, R.J. (2001). Prawdziwe historie nowych produktów. Prószyński i S-ka.
- 38. Upadhyay, P., & Jahanyan, S. (2015). Analyzing user perspective on the factors affecting use intention of mobile based transfer payment. Internet Research, 26(1), 38–56. 2016. doi: 10.1108/IntR-05-2014-0143
- Vinitha, K., & Vasantha, S. (2018, March). Usage of E-Payment and Customer Satisfaction. Indian Journal of Public Health Research & Development, 9(3), 130-133. doi:10.5958/0976-5506.2018.001961
- 40. World Bank. (2017). Mobile Money and the Digital Economy in Somalia.
- 41. World Bank. (2018). Financial Inclusion and Mobile Money in Somalia.
- 42. World Bank. 2015. Retail Payments A Practical Guide For Measuring Retail Payment Costs. Retrieved on 14 February 2020. Available at: https://consultations.
- 43. worldbank.org/Data/hub/files/consultation-template/guide-measuring-retail-payment-