Volume: 15, Issue: 1
Page: 87-93
2022

International Journal of Science and Business

Journal homepage: ijsab.com/ijsb

China's mobile payment: lessons for African countries

Fodouop Kouam Arthur William

Abstract:
In Kenya in 2007, Safaricom launched its M-PESA solution for peer-to-peer money transfer, known as the start of mobile money. Nowadays, Africa is the global leader in mobile money. However, many see China as the leader in terms of mobile payment. In many African countries, mobile money transactions such as peer-to-peer transfers and personal account withdrawals are costly. While in China, the cost of these transactions is meager; some are even free of charge. This study aims to assess the lessons African countries can learn from China's mobile payment. The empirical research question is to determine what African countries can learn from China's mobile payment, especially peer-to-peer money transfers and personal account withdrawals. We collected data from 19 African countries from mobile network operators operating in these countries. We analyzed data using descriptive statistics. Findings show that the costs of peer-to-peer transfer and withdrawal from a personal account are expensive in African countries compared to China. African governments should promote the adoption of QR code payment and provide technology infrastructure and good regulation.

IJSB
Accepted 13 August 2022
Published 18 August 2022
DOI: 10.5281/zenodo.7005831

Keywords: *Mobile money, Mobile payment, China, African countries.*

About Author (s)

Fodouop Kouam Arthur William, School of Management, Hebei University, Baoding city, Hebei Province, China.

Introduction

Mobile technologies are changing economic and social life in several countries worldwide. African countries are not an exception. Over the last decade, Africa has become a global leader in mobile money. Various reasons can explain the mobile money boom in Africa. Some of them are that the smartphone adoption rate in Africa is growing fast and is twice the global rate. In 2019, over one billion people registered mobile money accounts. In addition, the mobile money industry daily processed $1.9 billion (Naghavi, 2019). Moreover, the mobile money industry registered 300 million monthly active accounts, an increase of 17% compared to 2019 (Andersson-Manjang & Naghavi, 2021). Furthermore, about 80% of African adult people do not have access to banking services, and most of the continent is still unbanked (McDermott, 2016). In this sense, mobile money services allow unbanked people to access the financial system. However, despite its growth, the mobile money industry faces some challenges in Africa. There is difficulty in recuperating the initial investment in infrastructure. Moreover, fraud and criminal practices, such as sending fake SMS to scam users, are still a considerable problem (Sub-Saharan (2016). Many see China as the leader in terms of mobile payment. Mainly in terms of the population's adoption and the low cost of mobile payment transactions. In China, two large technology firms lead the mobile payment market. Chui (2021) argues that four reasons can explain their development: large user base, the cautious offer of high-risk financial services, the Chinese government's regulatory tolerance, and initial conditions and government support. In many African countries, mobile money transactions such as peer-to-peer transfers and personal account withdrawals are costly. While in China, the cost of these transactions is meager; some are even free of charge. To the best of our knowledge, in the current literature, few studies assess the cost of mobile payment transactions in African countries compared to China's mobile payment. This study aims to assess the lessons African countries can learn from China's mobile payment in terms of the cost of transactions. The empirical research question is to determine what African countries can learn from China's mobile payment, especially peer-to-peer money transfers and personal account withdrawals. The rest of this paper is structured as follows. The next section reviews the literature on mobile payment in China and mobile money in African countries. Section three presents the research method used in this study. Section four discusses the results, and section five concludes.

Literature Review

Overview of China's mobile payment

Currently, in China, Ant Financial Services (Alipay) and Tencent's WeChat Pay are the two players leading mobile payment services. Both players have structured ecosystems around their mobile payment tools. People living in China use WeChat Pay or Alipay for different services: purchase goods, order food delivery, pay different bills (electricity, water, gas), buy tickets (bus, train, plane), transfer money, apply for a loan, invest in financial products. In China, most commercial companies, including small businesses, use mobile payment's Quick Response (QR) codes to conduct their business. Hossain et al. (2018) suggest that QR codes significantly impact on purchase intention and customer satisfaction. According to Klein (2019), WeChat reached one billion users in 2018, and Alipay surpassed one billion users in 2019. The author argues that mobile payments in China have reached over 277 trillion yuan annually. Alipay and WeChat contributed 92% of the mobile payments, respectively 53percent, and 39 percent.

Following Huang et al. (2020), three main factors contributing to the triumphant ascendancy of mobile payment in China are lack of supply, regulatory policy, and technological development. First, before the development of Alipay in China, the Chinese payment system displays two features: the high level of financial repression and the high proportion of banks in

the financial sector. Improving financial inclusion was a challenging task in China. During that period, the average rate of credit cards was relatively low. In addition, traditional card payment services, such as the point-of-sale machine, were often inefficient, slow, and expensive. Therefore, most low-income individuals and small and medium enterprises have no option but to rely on cash for financial transactions. As soon as mobile payment services were available online, their adoption by the market was swift. Nowadays, the peer-to-peer transfer is charge-free in China, and the charge for withdrawals is 0.1 percent of the amount. Second, a tolerant regulatory environment contributed to the rapid development of China's mobile payment system. Indeed, there were no strict regulatory restrictions on mobile payment. Until the People's Bank of China released its "Measures for the Administration of Payment Services for Non-Financial Institutions" report in June 2010. Nowadays, the People's Bank of China has issued up to 270 third-party payment licenses. At last, technological development has offered the necessary conditions for improving service and spreading payment coverage. Huang et al. (2020) argue that the smartphone penetration rate in China was 66 percent in 2017, similar to most developed countries but higher than Brazil, Turkey, and India, respectively 36 percent, 19 percent, and 10 percent. Moreover, the number of transactions Alipay can handle per second increased from about 200 in 2011 to 210,000 in 2017. Furthermore, adopting of Quick-Response codes also played a crucial role in extending mobile payment services.

Mobile money in African countries

In the context of Africa, there are three primary mobile money services (Krystyna et al. (2018). The first is mobile banking, which allows customers of a financial institution to access their money. It is only available to people who possess a formal bank account. The second is mobile payment allowing unbanked people to purchase or sell goods and services at a merchant shop. They use mobile wallets through their mobile phone instead of cash. The third service is mobile transfer. Also known as person-to-person "P2P", this service allows unbanked people to send or receive small sums of money to/from any other mobile phone user across the country. It also works from urban to remote rural areas and across international borders. Moreover, a mobile transfer is possible between different telephone service providers. Krystyna et al. (2018) classify African mobile money services into two models: the bank-led and non-bank-led models. The bank-led model is a model by which banks take over at least account provision and settlement under a model for mobile payment service. In this model, customers have a direct contractual relationship with a licensed financial institution. In Africa, bank-led models are standard in middle-income countries with a relatively high rate of banked population. Nigeria and South Africa are examples. In these countries, various distribution channels, including mini-ATMs, traditional ATM branches, credit and debit cards, and mobile phones, characterize the financial sector (African Development Bank Group, 2013). On the other hand, countries with a high rate of unbanked population rely on the non-bank-led model. It is a model by which nonbank companies are responsible for all the essential functions except settlement. In this model, nonbank companies (often mobile telecommunication companies) exchange cash for electronic value recorded in a virtual account on their server. African low-income countries use this model. Despite its success story in Africa, mobile money faces various problems. Sub-Saharan (2016) highlights four challenges of mobile money in Africa: the difficulty of retrieving the initial investment in infrastructure, fraud, difficulty building and maintaining trust among customers, lack of interoperability, and regulation. Furthermore, other challenges of mobile money in the East African market include licensing and regulation, agent distribution and capitalization, low literacy levels, insecurity, and lack of insurance cover. According to Rui et al. (2020), one of the problems of mobile payment is the disclosure of clients' information. The authors argue that paying online increases insecurity. In summary, the current literature analyzing the problems of mobile money in African countries highlights

various challenges. Among them are fraud, licensing and regulation, insecurity, and lack of insurance cover. Furthermore, the difficulty of retrieving the initial investment is a significant problem for mobile money in the same context. However, the current literature does not assess the cost of mobile money services in African countries. Moreover, it lacks a comparative analysis between the costs of mobile money services in African countries and their cost in China. This paper contributes to the current literature by investigating the costs of mobile money services in African countries. In addition, it offers a comparative analysis between the costs of mobile money services in African countries and their cost in China.

Methodology and Data

In this paper, the study of Sub-Saharan (2016) is a reference for analyzing mobile money problems in African countries. We collected data from mobile network operators. The sample size is 19 African countries divided into three categories: West African community, Central African community, and East African community.

Table 1. List of countries

West African community	Central African community	East African community
Benin	Cameroon	Tanzania
Burkina Faso	Gabon	Kenya
Côte D'Ivoire	Central African Republic	Uganda
Mali	Chad	Rwanda
Niger	Republic of Congo	Burundi
Guinea-Bissau	Equatorial Guinea	/
Senegal	/	/
Togo	/	/

Table 2. Leading mobile payment operators in the selected countries

West African community	Central African community	East African community
MTN Mobile Money, Orange Money, Airtel Money, Wari, Flooz, Tigo Cash, Mobicash, Togocel, Qash Services,	MTN Mobile Money, Orange Money, Express Union Mobile, Flooz Mobile Money, Airtel Money	M-Pesa, Tigo Pesa, Airtel Money, Halopesa, Orange Money, MTN Mobile Money

Results and Discussion

Comparative analysis between China's mobile payment and mobile payment in African countries

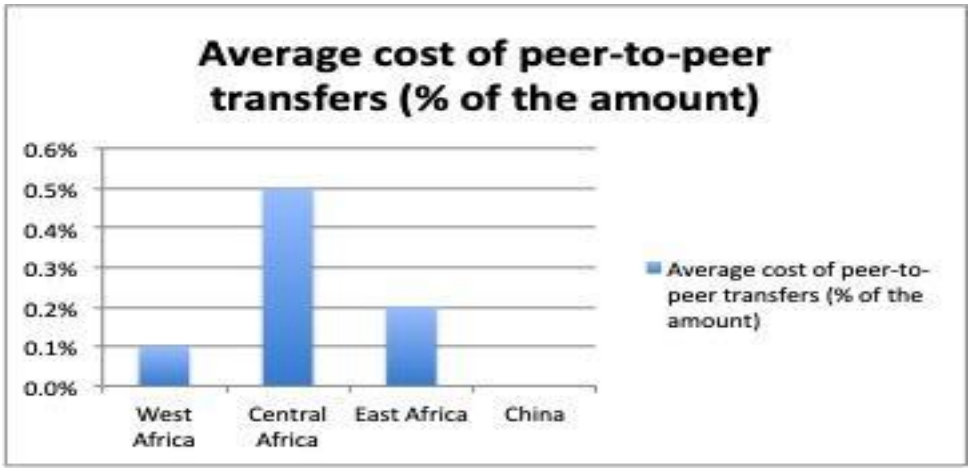

Figure 1. The average cost of peer-to-peer transfers in African countries compared with China

Findings indicate that the cost of peer-to-peer transfers is expensive in African countries compared to China, where it is free of charge. It is the most expensive in central African countries with an average cost of 0.5% of the amount and less expensive in West Africa with an average of 0.1%.

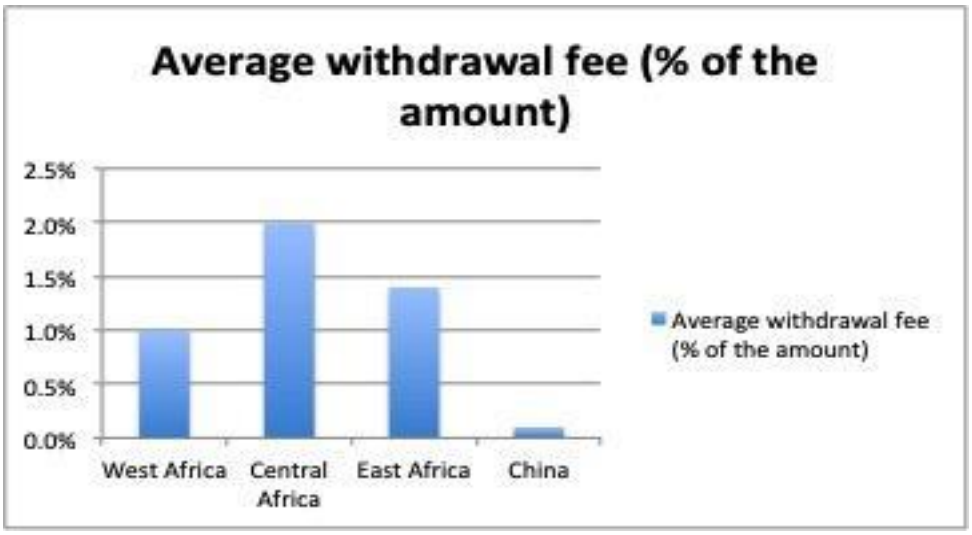

Figure 2. The average withdrawal fee from a personal account in African countries compared with China

According to findings, the average withdrawal fee in China is meager compared to African countries. In China, withdrawing money from a personal account only charges 0.1% of the amount. However, it is higher in African countries, especially in central Africa, where the cost is 2% of the amount. In East Africa and West Africa, the average withdrawal fee is respectively 1.4% and 1% of the amount.

China's mobile payment lessons for African countries: adoption of QR code payment

QR code is a two-dimensional Quick Response bar code or square-shaped code containing data on the merchant and payment provider. QR code payment functions like a standard Point of Sale (POS) terminal. It offers various benefits: better security than card payment, elimination of any need for cards or payment terminals, the possibility to print the QR code and put it everywhere, and lower cost. Payment takes place only with a digital device with a camera linked to an account. Following the Chinese government's example, African governments should promote the adoption of QR code payments. In addition, they should provide technology infrastructure and reasonable regulation. Soutter et al. (2019) argue that lower cost, de-risk the sending and managing, and readily available and affordable mobile platforms should be the foundations of mobile payment in Africa. According to the authors, good technology infrastructure and regulation are necessary conditions for the success of mobile payment in terms of reduction of services costs. Moreover, in Sub-Saharan Africa, the effectiveness of mobile money depends on a supportive regulatory environment (Klapper et al., 2021).

Conclusion

Our paper assesses the costs of mobile money services in African countries compared to China's mobile payment. Findings indicate that the costs of peer-to-peer transfer and withdrawal from a personal account are expensive in African countries compared to China. The main lesson African countries should learn from China's mobile payment is the adoption of QR code payment. Following Ngo and Nguyen (2021), personal innovation, perceived ease of use and facilitating conditions, perceived security, and usefulness affect the attitudes towards intention to use the QR code payment service. In addition, perceived security and social influence positively affect the behavioral intention to use the QR code for mobile payment (Tu et al., 2021). Furthermore, African countries should provide technology infrastructure and good regulation. Mobile money has direct impacts on consumption and extreme poverty. As for risk sharing, it can cope with shocks. Mobile money positively affects labor productivity for informal firms (KABENGELE & ROESSLING, 2022). In addition, mobile money impacts labor outcomes by allowing firms to invest in fixed assets and workers to shift into more productive

occupations (Bill & Melinda Gates Foundation, 2021). Similarly, mobile money positively impacts entrepreneurship in East Africa (Koomson et al., 2022). Digital payment can increase an entrepreneur's profitability and give women entrepreneurs greater control over their income (Klapper, 2017).

Applications, limitations, and further research direction

Adopting these lessons can solve the high-cost problem of mobile money in African countries. In this sense, reducing mobile money transaction costs in African countries can reduce poverty, promote consumption and encourage entrepreneurship in the same context. This study offers an essential contribution to the existing literature. It contributes to the literature on mobile money in Africa's context by being one of the earliest studies assessing mobile money's service costs compared to China's mobile payment. However, our paper only focuses on one of the numerous problems mobile money faces in Africa: the high cost of peer-to-peer transfer and withdrawal from a personal account. Further research can explore other challenges of mobile money in African countries, such as fraud problems and insecurity, and provide some suggestions to deal with them.

Acknowledgment

We want to thank all people who contributed to the redaction of this paper.

References

- African Development Bank Group. (2013). Financial Inclusion and Integration through Mobile Payments and Transfer.
- Andersson-Manjang, S. K. & Naghavi, N. (2021). State of the Industry Report Mobile Money. London: *GSM Association*.
- Bill & Melinda Gates Foundation. (2021). The Impact of Mobile Money on Poverty.
- Chui, M. (2021). *Money, technology and banking: what lessons can China teach the rest of the World?* (No. 947). Bank For International Settlements.
- Hossain, M. S., Zhou, X., & Rahman, M. F. (2018). Examining the impact of QR codes on purchase intention and consumer satisfaction on the basis of perceived flow. *International Journal of Engineering and Business Management*, 10, 1-11.
- Huang, Y., Wang, X. & Wang, X. (2020). Mobile Payment in China: Practice and Its Effects. *Asian Economic papers*, *19*(3), 1-18.
- KABENGELE, C., & ROESSLING, J. (2022). EVALUATING THE EFFECT OF MOBILE MONEY ON FIRM PRODUCTIVITY IN AFRICA: A COMPARISON OF THE FORMAL AND INFORMAL SECTORS. *Journal of Developmental Entrepreneurship*, *27*(02), 2250009.
- Klapper, L. (2017). How Digital Payments can benefit entrepreneurs. *IZA World of Labor*.
- Klapper, L., Ansar, S., Hess, J. (2021). *The Role of Mobile Money Regulations: Evidence from Sub-Saharan Africa*. The World Bank.
- Klein, A. (2019). Is China's new payment system the future. *Brookings Institutions, June*, *online at http://www. brookings. edu/wp-content/iploads/2019/05/ES_20190617_Klein_ChinaPayments. pdf*.
- Koomson, I., Martey, E., & Etwire, P. M. (2022). Mobile money and entrepreneurship in East Africa: the mediating roles of digital savings and access to digital credit. *Information Technology & People*, (ahead-of-print).
- McDermott K. (2016). *The Mobile Payment Revolution 2015*. PAYVISION Global Card Processing.
- Mitręga-Niestrój, K., Puszer, B., & Szewczyk, Ł. (2018). Mobile money services development: The case of Africa. *Studia Ekonomiczne*, *356*, 78-96.
- Naghavi, N. (2019). State of the Industry Report on Mobile Money. *London: GSM Association*,

23.
- Ngo, T. K. T., & Nguyen, T. H. (2021). The intention to use QR code payment in an emerging market–the role of "attitude" as mediator". *Psychology and Education Journal*, *58*(1), 3440-3454.
- Rui, Y., Huang, Y., & Pan, G. (2020). The Impact of Mobile Payments on China's Economy, *Finance and Market*, *5*(3).
- Soutter, L., Ferguson, K., Neubert, M. (2019). Digital Payments: Impacts Factors and Mass Adoption in Sub-Saharan Africa. *Technology Innovation and Management Review*, *9*(7).
- Sub-Saharan, E. (2016). Mobile money in Africa: Promise and Perils. *World*, *656*, 20150120.
- Tu, M., Wu, L., Wan, H., Ding, Z., Guo, Z., & Chen, J. (2021). The Adoption of QR Code Mobile Payment Technology During COVID-19: A Social Learning Perspective. *Frontiers in Psychology*, *12*.

Cite this article:

Fodouop Kouam Arthur William (2022). China's mobile payment: lessons for African countries. *International Journal of Science and Business, 15*(1), 87-93. doi: https://doi.org/10.5281/zenodo.7005831

Retrieved from http://ijsab.com/wp-content/uploads/5335.pdf

Published by

IJSAB International