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Recommended Citation

Gupta, Gireesh, "Is M-PESA Enabling The Poor Of Kenya To Bank Without A Traditional Bank Account?" (2023). *SAIS 2023 Proceedings*. 30.
<https://aisel.aisnet.org/sais2023/30>

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IS M-PESA ENABLING THE POOR OF KENYA TO BANK WITHOUT A TRADITIONAL BANK ACCOUNT?

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ABSTRACT

The paper aims to study the economic impact of the M-PESA mobile money on the lives of the poor people of Kenya – whether M-PESA is lifting them out of poverty and improving their socio-economic status. Albeit not novel, the study will discuss the M-PESA mobile money service available to the poor in Kenya, what it is, how it works, and then analyze if it is helping the poor. The paper will elaborate, by compiling data and analyzing them, on the financial applications of M-PESA for the poor of Kenya. The data will support that M-PESA empowers the poor with independence and self-reliance. At the same time, it enables them to manage their finances without having an account in an intimidating affluent bank located far away in major cities. It will also show that the mobile-money M-PESA enables the destitute of Kenya, without a traditional bank account, to manage their money safely, unlike in the past when the impoverished stashed their hard-earned cash in their house unsafely.

Keywords

M-PESA, Mobile money, Mobile banking, Mobile phone

Research Questions

1. Is M-PESA making it more efficient and convenient for the poor of Kenya to do financial transactions without having a traditional bank account?
2. Is M-PESA helping the poor of Kenya save and manage their money more effectively?
3. Is there a beneficial economic impact of M-PESA on the lives of the poor in Kenya?

INTRODUCTION

According to the World Bank, some 1.7 billion adults worldwide don't have access to a bank account. The World Bank's data shows the worst situation in developing countries and Africa, and Asia in particular [10]. M-PESA, an extremely successful money transfer service worldwide, is a mobile banking service launched in March 2007 to the people of Kenya in Africa who do not have a regular bank account. M-PESA allows the safe transfer and storage of money electronically. As a result, rural Kenyans do not have to make long trips to urban areas to make monthly payments for essential utility services, such as electricity, heat, water, etc. M-PESA saves rural Kenyans time and money (on average US\$3 per transaction) that they can better use to purchase food and place into long-term savings [3, p. 393]. With their mobile phone, they can check account balances, pay remotely for goods and services, deposit funds into their account, and transfer funds from one account to another.

M-PESA AND M-PESA AGENTS IN KENYA

In Kenya, the joint venture of Vodafone and Safaricom offers M-PESA. Only Safaricom or Vodafone customers can register for M-PESA services. However, non-M-PESA account holders can also carry out M-PESA transactions [20]. M-PESA allows the customer to do the following types of transactions using SMS messages:

- Deposit funds into the user's M-PESA account
- Transfer money from one person's M-PESA account to another person's M-PESA account
- Transfer money from one person's M-PESA account to a business's M-PESA account
- Transfer money from one person's M-PESA account to a non-M-PESA-registered account
- Withdraw cash from an M-PESA agent or an M-PESA-authorized ATM
- Make payments on goods and services purchased

- Buy airtime for the mobile phone

M-PESA is not a traditional mobile banking service. It only facilitates the transfer of money using a mobile phone. The customer only needs a mobile phone to subscribe to M-PESA and do transactions. There is no minimum amount required to open an M-PESA account. The customer and agent's mobile phone numbers work as their account numbers.

Over 160,000 M-PESA agents in Kenya [20] assist customers with their registration, educate them about services, deposit cash into customers' accounts, and process cash withdrawals for M-PESA and non-M-PESA customers. The M-PESA agents include Safaricom authorized dealers with outlets throughout Kenya, gas stations, supermarkets, registered SMEs (Small and Medium-sized Enterprises), selected banks, and micro-finance institutions. The agent earns a commission for every transaction performed [20].

“M-PESA offers a safe, fast, and low-cost way to pay, receive, transfer, and store money. M-PESA works digitally and in real-time, making it easier, faster, and cheaper than traditional informal money transfer services (e.g., sending money on a bus), as well as safer since every transaction is protected and signed with a [4-digit] PIN.” [13] [16, p.37].

M-PESA customers are required to register for the service with an authorized agent. To register for the M-PESA service, Safaricom users must fill out a simple application form. Once approved and registered, the M-PESA-enabled SIM replaces the old SIM on the user's mobile phone. Customers then create a 4-digit PIN and are ready to deposit cash into their account with an M-PESA agent; the money is converted to digital money, enabling them to do electronic transactions [13]. The Safaricom SIM gives registered users a text-based menu on their cell phones. The users can access the easy-to-use text-based menu on even the most basic cell phones.

FINANCIAL TRANSACTIONS USING M-PESA

To deposit money in the M-PESA account, a customer goes to the nearest agent and gives him cash. The agent then uses his mobile phone to access the client's account with the client's registered phone number and credits the cash electronically to the client's account. The customer and the agent get an SMS message on their mobile phones immediately confirming the amount of money deposited and the current account balance. The cash is deposited in bank accounts that Safaricom manages. Each account is insured up to a maximum of 100,000 Kenyan shillings, abbreviated KSh or Sh (or \$1000) by the Deposit Protection Fund [7]. Customers can use this e-money or virtual cash to make business transactions *via* SMS, such as paying bills or getting cash from an M-PESA agent [21].

To withdraw or get cash from his account, the customer must go to the nearest agent's kiosk and electronically transfer money *via* SMS from his account to the agent's account using the agent's mobile phone number and the customer's 4-digit PIN. The agent then gives cash to the customer. Soon after the transaction is complete, both parties receive an SMS confirming the amount withdrawn and the current account balance [21] [7].

A customer can transfer money from his M-PESA account to another cellphone number-based M-PESA account. However, a customer cannot directly deposit cash into another person's M-PESA account. The money transferred to a registered M-PESA account holder is simply credited to his account. If the money is transferred to customers who do not have a registered M-PESA account, M-PESA sends an electronic voucher to those customers that they can take to an M-PESA agent to cash [13][21].

It does not cost the user anything to deposit money into his M-PESA account. However, Safaricom makes its money by charging a small amount when customers withdraw or transfer money [9] [11] [17, p.75]. M-PESA customers are charged only for a transaction that they have started. It costs far less for an M-PESA client to send money to another registered M-PESA client. The fee is higher to transfer money to a non-registered M-PESA client. The non-registered recipient of the money does not pay any fee to cash or withdraw money, but he cannot send this e-money to another user since he is not an M-PESA registered user. For example: in 2019, it cost the M-PESA user KSh45 to transfer KSh101-KSh500 to unregistered users, while it cost only KSh11 to transfer the same amount within the network to another M-PESA user. Safaricom charges the M-PESA customer KSh27 to withdraw KSh101 – KSh500 from the M-PESA agent [20]. There is no charge to maintain an M-PESA account [9].

Safaricom donates the interest earned from these user monies to charities to avoid being regulated as a regular bank. So, customers do not earn any interest on their cash because M-PESA is not a traditional bank [9]. A customer can also receive monthly M-PESA account statements. To register for the service, the customer must dial *234# on his mobile phone to access the menu and follow the prompts to complete registration; the user will have to provide his email address. After successful registration, the customer will receive his M-PESA statements by the 5th of every month via email [20].

GROWTH OF M-PESA CUSTOMERS AND AGENT OUTLETS IN KENYA

The data in Table 1 is compiled from the following references: [19], [12], [14], [3, p. 390], [1] and http://www.safaricom.co.ke/images/Downloads/Personal/M-PESA/m-pesa_statistics_-_2.pdf.

Year	M-PESA Customer Growth in Kenya since 2007	M-PESA Agent Outlets/Merchants Growth in Kenya since 2007
December 2007	1,337,103	1,582
December 2008	5,082,474	6,104
December 2009	8,865,728	15,216
December 2010	13,341,387	23,397
April 2011	14,008,319	27,988
April 2012	15,000,000	—
March 2013	17,000,000	—
December 2015	23,000,000	—
September 2016	24.8,000,000	114,000
July 2017	—	120,000
December 2018	25.57,000,000	160,000
March 2022	30.5,000,000	492,772

Table 1. Growth of M-PESA customers and agent outlets/Merchants in Kenya since 2007

The line charts in Figure 1 and Figure 2 represent the data in Table 1.

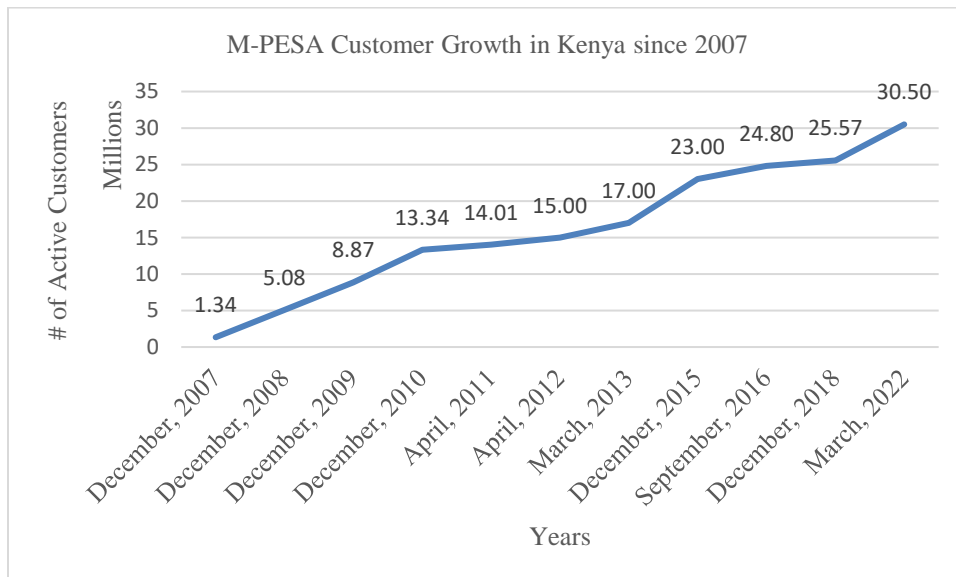


Figure 1. Growth of M-PESA customers in Kenya since 2007

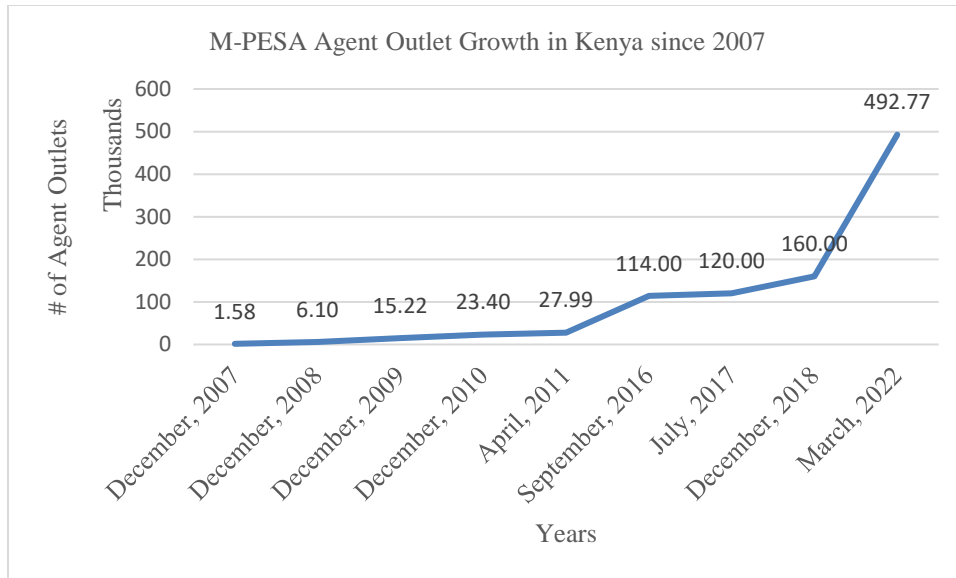


Figure 2. Growth of M-PESA agent outlets/Merchants in Kenya since 2007

The data in Table 1 and figures 1 & 2 indicate that since the inception of M-PESA in Kenya on March 6, 2007, M-PESA subscribers and agent outlets have grown steadily at a fast pace -- a testament to its success in Kenya. There were about 1,337,103 active users in December 2007. As of March 2022, there were about 30.5 million M-PESA customers – an impressive 2181% increase from the December 2007 value. By March 2022, the number of agent outlets/merchants increased by 31048% of the December 2007 value. Formula used: $[(2022 \text{ value}-2007 \text{ value})/2007 \text{ value}] * 100$.

THE FINANCIAL GROWTH OF M-PESA

Table 2 is compiled from the Safaricom Limited website [19]. The financial data after 2015 is not available on the Safaricom website. The data suggests that the financial growth of M-PESA (in Kshs or Kenyan Shillings) during 2010 – 2015 in Kenya is impressive.

Report Date	Deposit value of Kshs	Withdrawals of Kshs	Transfers of Kshs	Airtime value of Kshs
December 1, 2010	39,992,000,000	35,313,000,000	41,639,000,000	1,280,000,000
December 1, 2011	61,253,000,000	55,345,000,000	63,867,000,000	2,446,000,000
December 1, 2012	79,275,000,000	70,284,000,000	79,551,000,000	3,193,000,000
December 1, 2013	93,273,000,000	79,917,000,000	84,882,000,000	3,551,000,000
December 31, 2014	104,955,132,618	90,264,165,528	92,116,902,245	3,954,745,855
December 31, 2015	125,298,015,514	107,065,238,244	107,396,348,247	4,868,556,607

Table 2. The financial growth of M-PESA in Kenya

The column chart in Figure 3, based on Table 2, depicts the steady rise in all four types of M-PESA financial transactions in Kenya from 2010 – 2015.

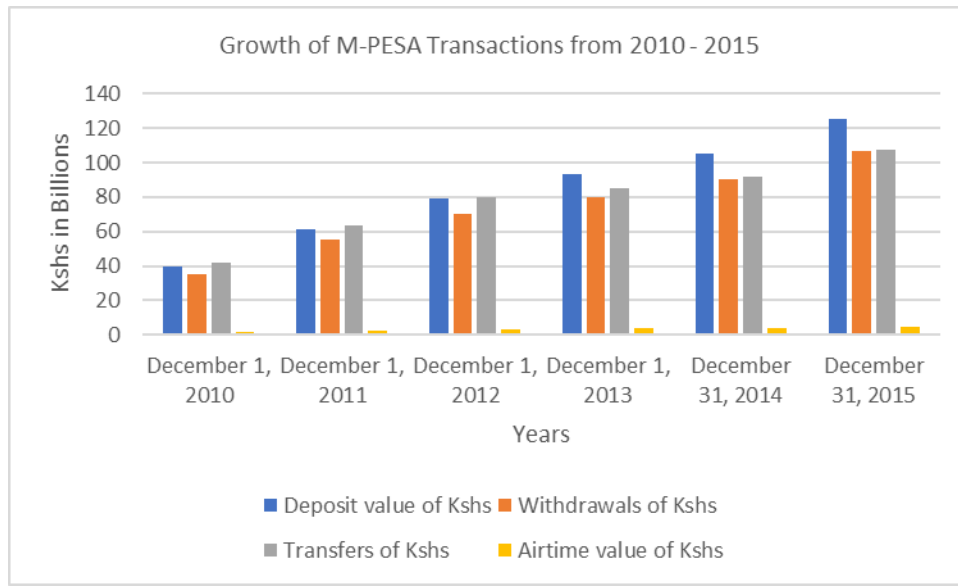


Figure 3. Growth of M-PESA transactions in Kenya

IS M-PESA MOBILE MONEY HELPING THE POOR IN KENYA?

Kenyan citizens can access the same services with M-PESA as brick-and-mortar banks provide but at a far cheaper cost and convenience. However, criminals in Kenya also started taking full advantage of using M-PESA to do illegal transactions. Text messaging made laundering dirty money very easy for criminals. M-PESA became a massive channel for illicit money transfers by drug lords and smugglers [18]. Safaricom's website has several guidelines for M-PESA users to protect themselves from fraudsters [20].

Fraudsters are experts in intercepting mobile banking data during transmission; this is easier because data is not encrypted when transferred over the network. Safaricom has a network system with built-in encryption mechanisms, encoding all data that passes through the network [20].

M-PESA is helping women sell their products more efficiently and effectively. They can sell more, increase revenue, and save more money and time, which affords them better lives by investing in better homes and education for their children [18].

In the July to September 2018 quarter, Kenyan citizens made 575,660,251 M-PESA transactions worth about Sh1.58 trillion [15]. In 2019, M-PESA offered a range of payment services, loans, and savings to more than 21 million people in Kenya. "The impact of M-Pesa on Kenya's economy has deepened, with the value of money moving through the mobile money platform now more than eight times that of the country's budget. In the 2022 Sustainability Report, Safaricom has revealed that a total of Sh29.55 trillion was transacted on M-Pesa in its financial year to March 2022, as customers and revenues grew. Kenya's budget during the 2021/2022 financial year was Sh3.66 trillion. The company reported that its Lipa na M-Pesa merchants increased by 63.4 percent to 492,772... M-Pesa customers increased by 2.2 million to hit 30.5 million by March 2022; the company stated [1]."

M-PESA is also creating jobs in Kenya. The growing number of M-PESA merchants in Kenya adds to the country's economy. M-PESA has enabled many Kenyan citizens to start their own business, and many changed their jobs from farming to business, thus helping them come out of poverty [23]. The low cost of transferring money with M-PESA has helped increase household incomes in Kenya by 5 - 30% [2, p. 53].

M-PESA's positive impacts on the Kenyan economy are manifold: before M-PESA, it took time to send money from one person to another; now, money can be sent quickly from the user's cellphone. With M-PESA, users have several choices to make transactions from the convenience of their cellphones – such as deposit, withdraw, or transfer money; pay for services, utility bills, school fees, etc. [5]. "The impact [of M-PESA] on GDP is easier to explain. Given that GDP is equal to a country's money supply * velocity, M-PESA has increased the velocity and, therefore, the GDP... M-PESA keeps the economy humming. It has made the financial sector more vibrant and efficient..." [5] "The velocity of money is a measurement of the rate at which money is exchanged in an economy. It is the number of times that money moves from one entity to another. It also refers to how much a unit of currency is used in a given period. It's the rate at which consumers and businesses in an economy collectively spend money. [4]"

Tavneet Suri, an economist at MIT Sloan School of Management, and William Jack, an economist at Georgetown University, published a study in the December 9, 2016, issue of *Science*. According to the study - “we estimate that access to the Kenyan mobile-money system M-PESA increased per capita consumption levels and lifted 194,000 households, or 2% of Kenyan households, out of extreme poverty (living on less than \$1.25 per day). The impacts are more pronounced for female-headed households...” [22, p. 1288], [8]. “Moreover, mobile-money services have helped an estimated 185,000 women move from farming to business occupations.” [8].” M-PESA is empowering women in household finances [2, p. 54]. “Widespread adoption [of M-PESA] has bolstered Kenya’s economy, says Dr. William Jack ... There is unequivocal proof that M-PESA has a positive impact on people’s financial health” [18].

However, an article and a blog published in June 2019 by three economists, Milford Bateman, Maren Duvendack, and Nicholas Loubere, challenge Suri and Jack’s study about the powers of M-PESA in the alleviation of poverty in Kenya. The authors contest that Suri and Jack's study contains errors, omissions, and inconsistencies and uses flawed methodologies [24][25].

Safaricom’s M-PESA active customers have increased to 32 million [26] out of a total population of 53 million in Kenya. According to Safaricom’s Customer Terms and Conditions, one must be 18 years to enter into contracts; this age group is approximately 60% of the Kenyan population – indicating that almost all eligible Kenyans use M-PESA services.

CONCLUSION

Although some articles dispute the validity of the M-PESA studies claiming its miraculous impact on the Kenyan economy, many studies and articles presented in this paper suggest that M-PESA positively impacts the Kenyan economy and financial health of the poor in Kenya. The economically disadvantaged Kenyans can manage, deposit, and withdraw money, sell goods, and make payments more effectively, efficiently, and conveniently. M-PESA has created jobs in Kenya, enabling many Kenyans to become small entrepreneurs. M-PESA services have increased household income, allowing the poor to invest in better homes, afford better entertainment, and provide better education to their children.

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