

# THE INTERNATIONAL JOURNAL OF BUSINESS & MANAGEMENT

## Digital Payments and Financial Inclusion among the Youth in Kenya

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### **Abstract:**

*This study sought to investigate the relationship between digital payments and financial inclusion among the youth in Kenya. In specific, the study employed payments from people to businesses and payments between people as measures of digital payments. The study sampled youth in Kenya to youth in universities in Nairobi County. This study sought to collect primary data using questionnaires for one year, targeting 2020. The data collected were analyzed using both descriptive and inferential statistics. The study found out there was a significant positive relationship between digital payment and financial inclusion. Emulated from the empirical results, the study recommends that digital financial services providers should improve the provision of digital payments. This can be enhanced through the reduction of transaction charges which would lower the overall costs. Multiple stages of transaction charges make digital payments expensive. More so, the government should aim to eliminate the one percent tax imposed on mobile money, a form of digital payment, which has led to an increased cost of mobile money.*

**Keywords:** Digital payments, financial inclusion, youth

### **1. Introduction**

In developing countries, financial inclusion has been used as an effective tool for measuring economic improvement. Further, financial inclusion has been used to eradicate financial hurdles that have overwhelmed individuals. This has ensued through the provision of fair means of financial services such as payments, credit, and savings at an affordable cost (Shafi & Medabesh, 2012). Provision of financial education and creation of financial awareness to the public are measures employed to improve financial inclusion as they enable better financial choices to fulfill specific needs and ultimately overall economic growth (Singh & Pushkar, 2019).

In Sub-Saharan Africa, the availability of financial services remains the main obstacle to the growth of youth-owned businesses where 80 percent of these businesses utilize internal funding or funds from family and friends for their operation costs. In addition, 70 percent of these businesses have no access to credit yet are facing financial constraints (International Labour Organization, 2016). Youth in Kenya are not exceptional in facing financial constraints. However, digital financial services have been embraced by the youth as a source of quick finances.

Digital financial services such as payments, insurance, investment, financial planning, lending, and cross-border remittances are characterized by low cost, high speed, transparency, and security (Pazarbasioglu, Mora, Uttamchandani, Natarajan, Feyen, & Saal, 2020). According to Rambure, & Nacamuli (2008), through digital payments, households can transfer funds, make payments for their bills, buy products and pay for services from the comfort of their home as a result, different economies have centered on facilitating retail payments that focus on individual needs of making and receiving payment.

#### *1.1. Statement of the Problem and Objectives of the Study*

The third medium plan for implementation of Vision 2030 has taken into account the Big Four agenda. Youth are expected to benefit massively from the execution of the Big Four agenda. To achieve this GoK laid out measures to enable the creation of sources of finance and reduce financial exclusion among the youth. For instance, through the ministry of ICT, Ajira digital program is aimed at equipping youth with digital skills to benefit from digital job opportunities (Ajira Digital, 2020). In Addition, the government-initiated Uwezo and Youth Enterprise Development Fund (YEDF) is the source of credit finance from the government to promote youth entrepreneurship in the country (Government Printer, 2013).

Despite these measures by the government, youth in Kenya continue to face financial exclusion. For instance, more than 48.9 percent of youth, 23.5 percent of males, and 25.4 percent of females are excluded from accessing financial services (Kenya Institute for Public Policy Research and Analysis, 2020).

Fin Access household survey done in 2016 aimed to establish the current status of Kenya's financial inclusion and found out that the oldest and the youngest part of the population are most likely to be financially excluded from the formal financial institutions as opposed to the rest of the population. Further, the study found that more than 23 percent of young adults aged between 19 to 26 years were also excluded compared the to average 17.4 percent financial inclusion rate countrywide (FinAccess, 2016).

From the gap in the above studies, the current study sought to examine if digital payments have an influence on financial inclusion among the youth in Kenya.

### 1.2. Significance of the Study

The significance of this study was to investigate the effect of digital payments on financial inclusion among the youth in Kenya. The current research aimed to provide local and global policymakers with more insight into the rapid development of digital payments available to the youth. It established clarity on the role the emerging digital payments on financial inclusion among the youth in Kenya.

## 2. Literature Review

An outline of the appropriate theories that support this research is provided in this section including the empirical literature.

### 2.1. Theoretical Review

#### 2.1.1. Technology Acceptance Model

Davis F. come up with the technology acceptance model (TAM) in 1986. This theory deals with the individual perception on acceptance and usage of technology. TAM advocates that several factors influence the individual decision about how and when to use the new technology

Primarily, individuals mostly examine the perceived utility and perceived ease of use before adopting new technologies. Perceived utility entails the degree to which the recipient considers that the new technology enhances his or her work performance while perceived ease of use takes into account the ease with which the target uses and understands the new technology (Davis, Bagozzi, & Warshaw, 1989).

The key merit of the Technology Acceptance Model is that it has been used to accurately predict mandatory and voluntary use of technology with perceived utility has been a very strong predictor. However, the model has been criticized for focusing on the individual level of consumption and shunning environmental influences (Lee & Wang, 2017). Digital payments are referenced on this theory considering their perceived ease of use and utilization by the target consumers in Kenya and turn their role in the financial inclusion of the youth.

#### 2.1.2. Rational Choice Theory

Adam Smith developed the Rational Choice Theory in 1776. The theory advocates that there is an interrelationship between economic choice and social behavior. The rational choice theory incorporates three concepts being rational actor, self-interest, and the invisible hand. Where an individual will carry out a cost-benefit analysis before making an economic choice to determine the best decision despite the presence of uncontrollable factors.

Analysis of the demand side of the side of financial inclusion which comprises the available financial services and the conditions under which the provision occurs are all examined using rational choice theory. The utility function is employed in rational choice theory as a mathematical function that provides a numerical value to all possible options a person has when making a decision. The demand side of financial inclusion is present in the utility function represented by characteristics or quality of financial services and service provider attributes (Awunyo, 2018). Being the main theory in this research it underpinned the dependent variable, financial inclusion, it advocates rationality in decision making when demanding financial services.

### 2.2. Empirical Review

Financial innovations have had a great effect on different economies globally, as they have made payments, especially online ones, safer and faster. Consequently, financial innovations have also driven costs incurred by customers relatively down.

A study by Mukesh, Mugweru, Murithi, & Cracknell (2011), sought to establish whether M-Pesa services rails contribute to financial inclusion. The study stated that M-Pesa services provide an excellent money transfer channel as it is convenient. Further, M-Pesa services have led to multiple systems competing for customers, hence reduction in cost, improved products, and better service delivery. The study concluded that 23 percent of Kenyans are formally banked and an additional 18 percent had access to M-Pesa services. However, the study criticized the fact that M-Pesa services have led to what seems a monopoly resulting in a low equilibrium level of financial inclusion (Mukesh *et al.*, 2011).

Analyzing the effect of all digital payment services on the financial inclusion of youth was the main aim of the current study. The above study focused on the integration of M-Pesa services with other financial institutions to establish the road map to financial inclusion. Further, the scope of the current study was a one-year analysis of data, 2020, for the above study data analysis was from 2009. Data collected was for the year 2020, essential due to the significant evolution in digital financial services that have taken place over years since 2009.

Van Hove & Dubus (2019) researched the role of M-Pesa services on financial inclusion focusing on payment and savings. The research examined the usage and uptake of M-Pesa services to establish which part of the population had

higher financial inclusion. The study concluded that users of M-Pesa services have increased over the years. 50 percent of the unbanked population was using M-Pesa services in 2009 which increased to 65 percent as of 2013. Further, the study reported that usage of M-Pesa services was popular among female households resulting in women empowerment.

The above study measured the M-Pesa services as a savings tool ignoring the payment and money transfer aspects. Also, the study focused on data collected in 2013 by analysis of qualitative data. The current study sought to analyze quantitative data and any effect subjected by digital payment services on financial inclusion among youth.

International Finance Corporation (2018) investigated the effect of digital financial services and financial inclusion of the youth in Sub-Saharan Africa. The analysis was a comparison of four countries in the continent. The report concluded that digital financial services have led to a reduction of the unbanked population hence improved financial inclusion. Further, they reported that a large number of youths still save their money at home. For this reason, the report advocated the introduction of incentives to encourage the youths to save via mobile money services. However, this study focused on a cross-country level analysis of four countries that is Uganda, Ghana, Zambia, and Senegal. It was, therefore, necessary to carry out research in Kenya, to establish if digital payment services have improved financial inclusion among the youth.

### 3. Research Methodology

#### 3.1. Research Design

(Boru, 2018), states that explanatory research design aims at providing more insight and understanding by answering the 'why' and 'how' about a phenomenon. It goes further to provide evidence to support or refute an explanation or prediction. To achieve the main objective statistical data was analyzed to give quantitative results and further establish the justification of the qualitative relationship. It was, therefore, necessary to use an explanatory research design.

#### 3.2. Operationalization and Measurement of Variables

The independent is digital payments while the dependent variable is financial inclusion. These variables were operationalized as shown in Table 1.

Variable	Variable Type	Scale	Measurement
Digital Payments	Independent	2-point Likert Scale	<ul style="list-style-type: none"> <li>• Payments from people to businesses</li> <li>• Payments between people</li> </ul>
Financial Inclusion	Dependent	2-point Likert Scale	<ul style="list-style-type: none"> <li>• Affordability</li> <li>• Convenience</li> <li>• Safety</li> </ul>

Table 1

#### 3.3. Target Population and Sampling Techniques

In this study, the population of interest was the youth in Kenya focusing on public and private university students on the main campuses in Nairobi City County aged between 18 years and 35 years. This was estimated at 84,848 students from 12 private and public universities in Nairobi City County (Commission for University Education, 2019). The target population was categorized into two strata, male and female to establish whether there was gender parity in the use of digital financial services. Through the application of a simple random technique, a sample from each stratum was selected. The sample size was 385 respondents.

#### 3.4. Data Source and Data Collection Instrument

The study collected primary data from the target population using a structured questionnaire as an instrument for data collection.

#### 3.5. Analytical Model

To test the relationship between digital payments and financial inclusion among the youth in Kenya, a regression model was employed.

$$Y = \beta_0 + \beta_1 D_p + \epsilon_i \quad (3.1)$$

Where:

Regression Parameters:

$\beta_0$  - The intercept (value of  $\sum Y$  when  $D_p = 0$ ).

$\beta_1$  is the regression coefficient.

$\epsilon_i$  = Error term.

Independent Variables:

$D_p$  - Digital Payments

Dependent Variables:

Y - Financial inclusion

## 4. Results and Discussion

### 4.1. Descriptive Statistics

Statement	Disagree	Agree	Mean	Standard Deviation
I gave or sent money to a family member or a friend for any reason using digital payment services in the year 2020	12.8%	85.9%	0.87	0.337
I received money from a family member or a friend through digital payment services in the year 2020 (this money was received for any reason except as a payment for goods and services)	10.3%	88.4%	0.90	0.306
I purchased goods and services using digital payment services in the year 2020.	15.3%	83.4%	0.84	0.363
Aggregate Score	12.8%	85.9%	0.87	0.34

Table 2: Mean and Standard Deviation of Digital Payments

The results of Table 3 show that 85.9 percent of the respondents agreed with the statements that they gave or sent money to a family member or a friend for any reason using digital payment services in the year 2020. This was with a mean score of 0.87 and low variability of 0.337. Further, 88.4 percent of the respondents agreed that they received money from a family member or a friend through digital payment services in the year 2020. This statement had a mean of 0.90 and a standard deviation of 0.306. Lastly, 83.4 percent of the respondents acceded to the statement that they purchased goods and services using digital payment services in the year 2020 with a mean of 0.84 and low variability of 0.363.

The responses to digital payments had an average mean of 0.87 and a small standard deviation of 0.34. This shows that most of the respondents acceded to the statements on digital payments at an average percentage of 85.9. This indicates that digital payments are essential in enhancing financial inclusion among the youth in Kenya as they are widely used by youth in the country.

This was in consensus with results published by Rajora & Mishra (2018) which stated that in India, 75 percent of young adults aged 18 to 24 years use digital payments systems indicating the popularity of these systems in that country. This was further corroborated by Singhal & Abhilasha (2019) who stated that the digital payment market share in India increased by 20 percent in 2020 and is expected to grow further by 5 percent in 2021. These findings also agreed with the results by International Finance Corporation (2018) that digital financial services have led to a reduction of the unbanked population hence improved financial inclusion. This was after investigating the effect of digital financial services on the financial inclusion of the youth in Sub-Saharan Africa.

### 4.2. Diagnostic Tests

Before the application of the model estimation, several diagnostic tests were carried out to ensure adherence to the assumptions of the regression model and achieve the best linear unbiased estimator (BLUE). To achieve this, the normalcy test, multicollinearity, linearity, and heteroscedasticity tests were applied.

#### 4.2.1. Normality Test

Skewness and kurtosis were used to carry out the normality test. If the skewness and kurtosis values are between 1 and -1, the normality assumption is met. (Mishra *et al.*, 2019). Table 3 below shows the statistic values for skewness and kurtosis which are between 1 and -1 hence the normality assumption was adhered to in the study.

Variable	N	Skewness Statistics	Std. Error	Kurtosis Statistics	Std. Error
Digital Payments	319	-0.944	0.137	0.946	0.273

Table 3: Normality Results

#### 4.2.2. Heteroscedasticity

The current study employed the Breusch Pagan test to carry the out-heteroscedasticity test. If the p-value was greater than the critical value, the null hypothesis would not be rejected  $P > 0.05$  as it implied the absence of heteroscedasticity.

Variable	Heteroscedasticity Statistics
Digital Payments	Test statistic: 0.09 P-value: 0.926

Table 4: Breusch Pagan Test Heteroscedasticity Results

#### 4.2.3. Linearity Test

According to Krieger (2018), violation of linearity assumption means that an error exists and the predictions beyond the sample data would be erroneous. This study carried out a linearity test using SPSS, whereby deviation from linearity test values should be more than the alpha value of 0.05 for the linearity assumption to be adhered to.

Variable	Deviation from Linearity(Sig.)
Digital Payments	0.329

Table 5: Linearity Test Results

#### 4.2.4. Multicollinearity

Multicollinearity was tested to ensure that predictor variables were not correlating with each other. Tolerance values greater than 0.1 and a Vector Inflation Factor (VIF) less than 10 indicated the absence of multicollinearity (Cooper & Schindler, 2008).

Coefficient			
Collinearity Statistics			
	Tolerance	VIF	Remarks
Digital Payments	0.860	1.163	Absence of multicollinearity

Table 6: Multicollinearity Results

#### 4.3. Regression Analysis

Digital Payments	Coefficients	Standard Error	t Stat	P-value
Intercept	0.40336766	0.061096004	6.602194	0.00
Digital Payments	0.407226518	0.071833088	5.669066	0.00
Observations: 319 F statistics= 16.18077 R Squared = 0.1335 Adjusted R Squared = 0.1253 Significance F= 0.00				

Table 7: Effects of Digital Payments on Financial Inclusion

The following regression model was developed based on the analysis of Table 21:

$$\text{Financial Inclusion} = 0.40336766 + 0.407226518 \text{DP} + \epsilon_i \dots \dots \dots (4.1)$$

Where:

DP–Digital Payments

Table 7 indicates that the adjusted R squared was 0.1253 hence digital payments had a low explanatory power on financial inclusion of 12.53 percent, whereas other factors not captured in this study explain 87.47 percent of the variation of financial inclusion. F statistics was 16.18077 with a P-value of 0.00, which is less than 0.05. This demonstrates that digital payments had a significant impact on financial inclusion among the youth in Kenya.

- $H_{01}$ : Digital payments have no effect on financial inclusion among the youth in Kenya

The objective was to investigate the impact of digital payments on financial inclusion among the youth in Kenya. The findings thereof were as shown in Table 7. This objective was achieved through the formulation of null hypothesis  $H_{01}$ , which states that digital payments have no effect on financial inclusion among the youth in Kenya. The coefficient of digital payment was 0.407226518 and a P-value of 0.00, which is less than the 0.05 threshold as specified in Table 7. This indicates that there was a significant positive relationship between digital payment as well as financial inclusion. As a result, the null hypothesis that digital payments have no effect on financial inclusion among youth in Kenya was rejected at a 5 percent significant level.

In the findings, a positive coefficient of 0.407226518 meant that as digital payments increase financial inclusion among the youth also increases. This further indicated that when payments from people to businesses and payments between people, which were the measurement indices for digital payments increase financial inclusion among the youth also increases.

These findings were in line with Patwardhan (2018) who concluded that almost 78 percent of Kenyans had either a mobile bank account or a bank account in the year 2015 hence promptly leading to an increase in financial inclusion in Kenya.

#### 5. Summary of Findings, Policy Implications, and Recommendations

During this study, an explanatory research design was used. Primary data was collected using a questionnaire presented in Google forms and administered face to face to the respondents. The data collected was reanalyzed using descriptive and inferential statistics. The relationship between digital payments and financial inclusion among the youth in Kenya was established using regression. According to the study, there was a significant positive relationship between digital payments and financial inclusion among the youth in Kenya.

##### 5.1. Conclusion

According to the study, digital payments have a significant positive relationship with financial inclusion among the youth in Kenya. As a result, an increase in digital payments such as payments between people, and payments from people to businesses through digital platforms lead to an increase in financial inclusion among the youth.

## 5.2. Recommendations

Foremost, digital financial services providers should improve the provision of digital payments. This can be enhanced through the reduction of transaction charges which would lower the overall costs. Multiple stages of transaction charges make digital payments expensive. Further, the government should aim to eliminate the one percent tax imposed on mobile money, a form of digital payment, which has led to an increased cost of mobile money. The research revealed a significant positive relationship between digital payment and financial inclusion.

Second, digital financial service providers through CBK should aim to enhance protection against fraud and theft. Digital payment systems should embrace end-to-end encryption and other security measures such as malware detection controls to mitigate digital theft and fraud.

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