Financial Technology and Financial Inclusion among Youth Operating Businesses in Central Business District Nairobi City County, Kenya

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ABSTRACT

Financial inclusion is the cornerstone of savings and investment initiatives among. Youth who are financially included have greater access to credit from financial institutions and can create and expand investment opportunities. In addition, the inclusion of youth in financial systems improves access to financial education and planning, which increases employment opportunities and ensures that previously marginalized and alienated youth are reintegrated into the economy. The purpose of this study was to evaluate the effect of financial technology on the financial inclusion of youth owned businesses in Nairobi's central business district. The researcher targeted a large population of approximately 32100 youth owned business enterprises in the central business district of Nairobi. Convenient sampling was used to select 500 respondents aged between 20 and 35 years, per the definition of youth by the Department of youth affairs. The researcher employed a descriptive research methodology. Using open-ended questionnaire, primary data was collected. The research discovered that the utilization of mobile phones, access to the internet, and the provision of agency services have a noteworthy impact on enhancing the financial inclusion of young individuals. The research findings suggest that the achievement of financial inclusivity for enhancing the participation of young individuals in economic frameworks is facilitated by the utilization of cellular devices, the utilization of online technology, the utilization of services through intermediaries, and the acquisition of financial literacy. Therefore, the formulation of strategies aimed at enhancing financial inclusivity among the youth in the central business district of Nairobi should prioritize the enlargement of entry and amplification of financial technology solutions.

Key words: financial technology, financial inclusion, financial exclusion, mobile banking

BACKGROUND OF THE STUDY

The word "financial inclusion" should be interpreted in light of its surroundings (World Bank, 2019). As the digital space continues to gain popularity, the youth are taking a major lead in its full implementation. The young people are now the largest population groupings with access to technology in most countries especially in the African continent; hence their decisions in financial matters have paramount implications for themselves, the society as well as their country's economy (Komara & Lay yinaturrobaniyah, 2020).

Financial inclusion is an important facilitator in decreasing poverty and increasing communal wealth among the various individuals within the economy. However, it is noted that with all the endearing facts in the developing countries largely in Asia, South America and Africa, it is only in Kenya where the formal banking industry only serves 15% of the entire population of the country. This leaves behind the larger

population out of the credit arena alongside other financial services that arguably help them out of the expected catalyst to economic growth and prosperity thereby locking them out of their potential and wealth creation growth prospects (World bank report in financial inclusion, 2018).

On a worldwide scale, and particularly in developing and emerging countries, small and medium businesses rely on cash flow to exist and encounter difficulties in obtaining inexpensive finance. Due to risk perceptions, a lack of credit data, and cost profile, banks and other financial institutions have been underserving the SMEs market (Alexander, 2017). A significant proportion of individuals in the working-age demographic face a dearth of opportunities to avail themselves of financial services, a matter of concern for international policymakers (Mutegi & Phelister, 2013). Financial inclusion strives to provide financial services as well as assist people in better managing their finances and developing financial talents.

The African context has also followed the same trend as those recorded globally such as those in United Kingdom by Mitton (2008), USA by Fonté (2012) as well as the OECD countries in which case all the authors agree the need for financial technology to achieve greater levels of financial inclusion (Kim, 2016). The ICT, notably the development of mobile phones, is a significant source of economic development in African nations. In 2009, a large number of African nations used informal financing or were financially excluded (88 percent of the population in Mozambique and 41% in Bostwana).

The Kenyan economy has not been left behind in matters relating to financial inclusion and financial technology where financial technology has been given much attention as a key driver to financial inclusion. Financial inclusion has undergone a remarkable growth over the previous ten years largely fueled by the advent of technology and global shifting of business models where urgency and easy of doing business alongside convenience has been the main driver for the need. Formal financial inclusion has developed from 26.7 percent to 82.9% in 2018 whereas comprehensive exclusion has lessened by 30% in the same period under survey (CBK, 2019).

Financial Technology

Fintech, or financial technology, simply denotes the use technology in doing business with the promise of increased access to the customers, robust market penetration, innovation of new products to serve the current needs of customers as well as quick access to financial services (Findex Database, 2017; Schueffel, 2016). At its most fundamental stage, fintech is used to assist businesses, individuals and business proprietors conduct their financial activity properly, procedures, and lifestyles with the employment of sophisticated software and computer algorithms and, gradually, smartphones. The word "fintech" is a combination of "financial technology" and "financial services" (Kegan 2020). Fintech is a word that was used in the 21st century to characterize the technology applied in well-known financial institutions' back-end software. Conversely, since that time, a change has occurred toward services that are more focused on the customer and as a consequence, the definition has become more consumercentric. Fintech currently encompasses a range of industries and businesses, which include education, retail banking, raising funds for good causes, and administration of investments, (Estevez, 2020).

Financial technology allows people to become more financially included by lowering the cost of delivering financial services (African Development Bank, 2014). Financial inclusion is the procedure for making financial services inexpensive and reachable to all enterprises and individuals, irrespective of their net worth or size (Demirgüçe-Kunt*et al.*, 2015).

The initial stage of digital finance in Africa entailed the emergence of mobile money, commonly referred to as the inaugural phase. The subsequent phase of digital financial advancement is presently in progress, with a focus on precise resource allocation, personal and corporate insurance, and enhancing small and medium-sized enterprises' ability to obtain external financing. In the region of Sub-Saharan Africa, M-Pesa and

mobile money enterprises are being lauded as the upcoming significant phenomenon in the realm of financial technology (Fintech Africa, 2018). As per a research conducted by Nwanko and Nwanko (2014), a significant proportion of individuals residing in economically disadvantaged nations encounter difficulties in obtaining financial services. Due to the relatively modest transaction sizes, the financial sector in these countries considers individuals with limited financial means to be economically unfeasible customers, whereas a significant portion of the population residing in rural areas lacks sufficient support from financial establishments. Mobile money possesses the capacity to boost financial inclusion, based on the African Country Global Findex Database (2017). As of 2014, an increment in the overall number of people holding a bank account in the region has been witnessed.

According to a Kenya National Bureau of Statistics survey, nearly 400,000 MSMEs in Kenya were shut before earning a second year of professional experience, raising concerns about the sector's long-term viability (KNBS, 2016). Between 2010 and 2016, 2.2 million SMEs shuttered their doors, according to the research. Kenya is among the nations in which the mobile financial system, encompassing M-Pesa services, agency banking, and internet transaction services, has made significant progress in the realm of banking and finance technology infrastructure services (Mbiti& Weil, 2011). Since 2006, Kenya's financial inclusion has grown by 56.2 percent, while exclusion has decreased by 30.3 percent (Fin Access, 2019). Since 2006, the landscape of Kenya's financial inclusion has shifted. FinAcces is a company that specializes in financial services. There has been a drop in transitions between the countryside and the towns, between affluent and poor individuals, and between males and women. All of these discrepancies were brought to light by the expansion of ICT, government backing initiative, in addition to the usage of mobile money.

Financial services should be made available, cheap, adequate, and accessible to underserved sections in society while adhering to minimal consumer protection criteria through the use of financial technology. If the government keeps up and offers answers to the risks involved because of administration of services based on financial technologies, the financial inclusion trajectory for the nation will undergo a transformation in the next ten years, allowing all citizens, regardless of wealth status, to benefit from digital payments (Global Findex Database, 2017).

This study used mobile phone usage, internet usage, agency services and credit information sharing as indicators of the independent variable. The choice of the indicators is a result of the fact that the Government of Kenya (GOK) uses these financial technologies for financial inclusion among the youth of Central Business District of Nairobi City County. This also goes for other Kenyans as well as other non-banked citizen's in the republic (Ministry of Youth affairs 2020).

Financial Inclusion

Financial inclusion implies that individuals and enterprises with financial inclusion enjoy access to financial goods and services that are both practical and inexpensive and fulfill their requirements, for example transactions, payments, savings, credit, and insurance, all of these services are provided in a responsible and long-term way (World Bank, 2020). A transaction account, which allows people to retain money and receive and transfer money, is the initial stage towards wider financial inclusion. A transaction account serves as a portal to the rest of financial services, this is why the World Bank has prioritized to guarantee that the vast majority of individuals have access to accounts through which they may do business, with a particular focus on vulnerable groups for example low-income groups, at a reasonable cost, utilizing a method that is both clear and honest by financial regulators (Chakrabarty, 2010). The objective is to establish a broad array of financial products at a reasonable price and make them accessible to all segments of the population, particularly those with lower incomes who are the primary earners (Joshi, 2010). According to Atieno (2001) financial inclusion is the accessibility of adequate financial and payment services as well as adequate credit at a reasonable cost to a vast range of population specifically the underprivileged and the low-income earners. It has varied definitions among them, ease with which financial services could be accessed,

availabili1ty and affordability (Sarma, 2008). The concept has been examined by other scholars (Fungacuva&Weilli, 2014) with a focus on utilization rather than the quality of the services rendered.

The level of financial inclusion varies from country to country depending on the stage of development of each. The most financially isolated societies are China and India, which are ranked top and second, respectively. Generally, the weakest elements of society are usually entirely overlooked by formal financial organizations in their pursuit of rapid profits. Financial inclusion, also known as inclusive finance, is the provision of financial services at a realistic cost. It is also the process of ensuring vulnerable populations, such as the weaker portions of the economy, have timely and sufficient access to financial services and credit when they require it (World Bank, 2020).

Access to financial services, the amount of money in a person's bank account or loan, and the frequency and amount of savings made by account holders have all been used to measure financial inclusion, with majority of researchers agreeing on the application of variables like access to financial services, the amount of money in a person's bank account or loan, and the frequency and amount of savings made by account holders as measurement measures that improve financial inclusion (Danjuma, 2018). According to Sarma and Pais (2011), a country's degree of human development and financial inclusion are inextricably linked.

The utilization of cellular devices and internet connectivity as a component of financial inclusivity had a noteworthy contribution on financial loss experienced by the 43 Kenyan banking institutions (Musau, Muathe & Mwangi, 2018). The internet banking system has been identified by other academics as a crucial element of financial technology, particularly in the context of digital banking. Melubo and Musau (2020), for example, realized that credit access factors of female-centric enterprises in Narok were made prominent via bank agents, mobile, and online banking, along with ATM services. The present investigation assessed financial technology by means of mobile phone utilization, internet utilization, agency services, and credit information dissemination.

This research employed the frequency of individuals' utilization of financial services, the average number of deposits made per person, and the levels of savings as indicators of the extent of financial inclusion among young individuals in the Central Business District of Nairobi City County, located in Kenya.

1.2 Statement of the Problem

Financial inclusion in Nairobi County according to a survey done by the KNBS in 2019 stood at 22% among the youth which is quite low considering there are quite a huge number of youths within Nairobi due to the rural-urban migration (KNBS 2019). Despite the progress made thus far, the Central Bank of Kenya 2020 poll finds that affordability and consumer protection problems such as surprising fees are still a barrier to official service access. Even more striking is the relative insignificance of formal financial access' influence on development. Many Kenyans have numerous types of official accounts, but they are infrequently used since they do not solve real-world difficulties for many families, small and micro companies, and farmers (FAO 2020).

According to Kippra (2020) ,the demographic segment of 26–35 years old has the greatest access to financing The majority of respondents the aged between 18 and 25 and those over 55 are financially disadvantaged. Major challenges attributed to the outcomes were factors related to access, trust, identification requirements, awareness and associated cost implications.

Based on the examined body of scholarly work, it is indisputable that fintech exerts a substantial influence on the promotion of financial inclusivity. The rate of technological advancement advances swiftly, and the efficient integration of the relevant technology in financial inclusivity empowers enterprises to sustain a competitive advantage in the current dynamic and competitive business environment. While financial

inclusion incorporates both formal and the informal sectors in accessing to financial products, the use of technology is very key in achieving this (Sarma, 2008).

According to statistics from the Kenya National Bureau of Statistics (KNBS), the Kenyan population is predominantly made up of young, who have increased by 26% from 37.7 million in 2009 to 47.6 million in 2019, an increase of 9.9 million. This implies that the Kenyan market is made up of the youth who form 75% of the total population. It is evident that the same growth trend is seen in the technological space with most of the youth being technologically literate. Most of the financial institutions have embraced technology in their operations in what is currently called FinTech as a platform to expand the customer base through financial inclusion.

The topic of financial inclusion measurement may help to explain some of the factors that influence financial inclusion. Examining the elements that have an impact on financial inclusion is particularly difficult because there is no universal measure of financial inclusion. The main difficulty in this case is a lack of data (Claesens, 2006; Beck, Demirguce-Kunt, & Honohhan, 2009). Adding to the previous researches Sarmie (2008), other studies such as Sarma, (2010); Arora, 2010; Beck, Chakravarty & Pal, 2010; Prathape, 2011; Gupte, Venkatramani, & Gupta, 2012) created the financial inclusion indexes. With the use of these indexes, researchers have made tremendous progress in determining the factors that influence financial inclusion.

LITERATURE FRAMEWORK

Theoretical Literature

Financial technology and financial inclusion have a meaningful link that may be comprehended in the framework of the finance growth theory. Financial inclusion generates a pleasant atmosphere for economic growth, according to the finance growth theory (Bagehott, 1973). This theory advocates for financial stability, which is characterized by the seamless functioning of the financial intermediation process. Consequently, the presence of a flourishing financial industry enhances the rate of economic expansion.

According to Schumpeter's (1911) analysis, the emergence of financial technology has created novel avenues for promoting financial inclusivity, thereby enabling an economy to flourish by providing streamlined platforms for the allocation of capital. Ndebbio's (2004) study found that financial systems help the economy grow. Financial markets experience fluctuations in reaction to the growing demand for financial services in a burgeoning economy. Consequently, the expansion of financial spectrum to include the youth operating businesses correspond with economic advancements via vibrant lenders. This is the conceptual framework that underlies the financial inclusion construct, which functions as the dependent variable in the study.

As per Robinson's (2001) assertion, this particular theory posits that the ability of banks to effectively engage in collaborative efforts with informal financiers is hindered due to the fact that informal financiers possess a greater amount of information regarding credit applicants, which cannot be acquired by formal institutions at a reasonable expense. Given that specific sources of repayment depend on the ability to access public capital markets, the presence of information asymmetry could potentially impact the availability and utilization of lines of credit (Hardin & Hill, 2010). The inclination of lenders to provide loans is influenced by the presence of information asymmetry, which is accompanied by uncertainty regarding the performance of bank credit. It is highly certain that borrowers will bear a substantial proportion of the surveillance expenses through elevated interest rates and fees associated with data collection, potentially leading certain borrowers to utilize bank credit facilities less frequently. Moreover, if the oversight is insufficient and

lenders are incapable of erasing data, there is a possibility that uneven bank loans might be restricted

(Nyangweso, 2013). These variables have a noteworthy effect on the lending behavior of business banks.

Technology adoption, particularly in financial institutions, has acquired significant traction and developed at an astonishing rate over the world, according to Arorah and Ferrand (2007). Considering the significance of banking systems, their widespread availability, and low cost, agent banking has a lot of promise for providing financial services to the unbanked. On the contrary, technology systems are vulnerable cyber security, making them unsuitable for financial transactions. Based on current agent banking models, technology dangers connected to information and data security have been highlighted, keeping clients in the dark.(Owen, 2006).

Empirical Review

Mobile Phone Usage and Financial Inclusion

In a study conducted by Ngugi (2015), deduced that the adoption of mobile-based financial transfer services has a positive effect on the promotion of financial inclusiveness. The inquiry realize that the utilization of mobile banking facilities has led to a noteworthy revolution in the expansion of financial markets, primarily through the progression of financial products associated with mobile money, particularly in the Kenyan context. More pertinent issues arise of mobile phone usage across age groups which can be exploited to enhance financial inclusion amongst the youth.

George (2012) conducted a research investigating the enablers of mobile banking services in the Kenya's capital. The analysis focused on evaluating three separate classifications of financial services, namely: mobile money transfers, mobile transactions, and mobile banking. This assessment involved the consideration of different explanatory variables, including age, gender, and educational attainment, as well as service fees. Furthermore, the rates of service adoption and the volume of transactions also play a role in this phenomenon. The study's suggestions include developing gender-sensitive financial goods and services that are responsive to low-income earners, as well as increasing financial service knowledge in both urban and rural locations (OECD, 2019).

An assessment by Mulwa (2012) in Makueni County investigated the significance of diverse wireless networking in facilitating financial inclusivity, and encompasses both narrative and numeric data sets. According to the findings translation required to realize that items were context particularly; the interaction of all the participants (human and nonhuman) was critical to the stability of mobile banking solutions and what arises as a result of this interaction. The degree to which major players are loyal to their alliances determines the success of translations. According to the report, authorities should reform legislation to foster market growth, awareness campaigns and literacy workshops for remote populations should be increased by focused actors, agents should be financially supported, and assistants should be trained.

Based on the above literature this study sought to interrogate how mobile phone usage affects financial inclusion. $\mathbf{H_{01}}$: Mobile phone usage has no significant effect on financial inclusion among the youth operating businesses in central business district, Nairobi City County, Kenya.

Internet Usage and Financial Inclusion

According to many research, the increased usage of mobile phones and the Internet has the potential to enhance financial inclusion (Andrianaivoh & Kpodar, 2012; Chatterjeeh & Ananda, 2017; Seng, 2017; Bongomine et al., 2018; Lenkah & Barik, 2018, Chinodah & Kwendah, 2019) as a result of which the financial industry will flourish (Rasheed et al., 2016; Anarfo *et al.*, 2019). The internet and mobile phones have shown to be beneficial instruments for encouraging financial inclusion as well as for the growth of the financial sector by lowering the cost of financial services and making financial organizations' operations

more efficient and flexible (Alshubiri *et al.*, 2019; Asonguh & Nwachukwuh, 2019; Edo et al., 2019), allowing access to formal financial services (Asonguh, 2015), decreasing the information asymmetry through the dissemination of information (Aminuzzaman *et al.*, 2003; Asonguh & Mouline, 2016; Asongu & Nwachukwu, 2019) lowering income disparities (Asonguh & Odhiambo, 2017; Asongu*et al.*, 2018).

In a study done in African nations, Andrianaivoh and Kpodar (2012) discovered a positive and substantial association between financial inclusion and pervasiveness of mobile phones. Mushtaq and Bruneau (2019), using a panel dataset of 61 low- and nations with a moderate income, came to the same conclusion: mobile phone usage can enhance financial inclusion.

In a study involving Swedish customers, Arvidsson (2014) discovered that implementation of a new mode payment is linked to apparent user-friendliness, age, income, trust, and users' perceptions of security threats. Security is a big concern in mobile payments, with research indicating that server security flaws might allow attackers to get access to customers' accounts (Haupertet al., 2017). Seng (2017) claims that mobile phones have a favorable influence on both formal and casual borrowing, based on a study done in Cambodia. Another study done by Lenka and Barik (2018) in the nations of the South Asian Association for Regional Cooperation (SAARC) found a link between mobile and Internet growth and financial inclusion. This study will additionally include internet usage as a measure of financial technology.

In a study conducted by Efremidou et al. (2014), an investigation was carried out to examine the determinants that influence the utilization of electronic banking services among a sample of 150 customers from Greek financial institutions. The findings demonstrate that the determinants influencing the utilization of electronic banking services by Greek bank clients are the security of transactions and user contentment. Additionally, it was discovered that trust plays a pivotal role and exerts a significant impact on customers' decision-making process regarding the adoption of electronic banking services. Sionfou (2015) conducted a study employing the Auto Regressive Distributed Lag (ARDL) the methodology employed to examine the impact of Information and Communication Technology (ICT) on financial inclusivity in the constituent nations of the West African Economic and Monetary Union (WAEMU). The outcome realized a prominent association between the variables. This research sought to address the geographic and population contexts in Kenya.

Based on the above literature this study sought to interrogate how internet usage affects financial inclusion.
H_{01}: internet usage has no significant effect on financial inclusion among the youth operating businesses in central business district, Nairobi City County, Kenya.

2.3.3 Agency Services and Financial Inclusion

According to Seeku (2015), the end of 2013, Kenya's bankable financial exclusivity rate has dropped to 25% from 37% in 2009. Commercial and microfinance banks were permitted to open Agencies on November 22nd, 2010, in accordance with the Government of Kenya's Vision 2030 of complete financial inclusion, to bank the majority of Kenya's un-banked and under banked community in the suburban, rural, and isolated areas with a diverse set of financial (Barrett &Michael 2010).

Acording to (CBK, 2019) Increase the geographic reach creates a virtual bank without having to invest in infrastructure, and operate at a minimal cost (no wage, no utilities, and no repair bills.) Financial hours are prolonged once the banks have closed, on public holidays, weekends, allowing customers access to banking services and bringing services closer to them (Jahan & Brad2011).

A research conducted by Cohen, Hopkins, and Leeh (2008), a significant number of families with limited income still face challenges in accessing conventional or partially conventional financial services. This is predicated on the assumption that these households reside in regions marked by sparse population densities,

thereby escalating the expenses associated with distributing goods through existing provider operational frameworks. Alternatively, it could be posited that the presence of transaction costs renders commodities prohibitively costly for the most economically disadvantaged individuals in society, leading to their exclusion or voluntary withdrawal.

Furthermore, according to a research conducted by Ivatury and Mass, (2008), agency banking, a type of banking that operates without physical branches, has garnered substantial interest because of its capacity to provide cash assistance many people living in close proximity to the lower end of the socioeconomic hierarchy.

A study about branchless banking and financial inclusion in Colombia was conducted by Lozano and Mandrile (2010). The scholars investigated the present condition of branchless banking in Colombia as a constituent of the government's endeavor to augment the accessibility of financial services via non-bank correspondents (NBCs). According to the research, the Colombian government decided to implement a branchless banking system that relies on non-financial organizations offering financial services autonomously, as a means of augmenting financial inclusivity.

Based on the above literature this study sought to interrogate how agency services affects financial inclusion. $\mathbf{H_{01}}$: Agency services have no significant effect on financial inclusion among the youth operating businesses in central business district, Nairobi City County, Kenya.

METHODOLOGY

Research Design

This study employed a descriptive design frame, which according to McClintock, (2018), lack direct control over the predictor variable, making it inherently unalterable. The methodology enabled the investigator to ascertain the attributes, patterns, associations, and classifications, as descriptive inquiry aims to precisely and methodically delineate a population, circumstance, or phenomenon. Furthermore, none of the variables were controlled or manipulated by the researcher; instead, they were observed and measured.

Target Population

This is the collection of items from which inferences are drawn. It is simply the population of interest to the researcher, which is the group to which the study's conclusions should be extrapolated (Lutz, 2018). The study focused on youth operating businesses in Nairobi's CBD that had been reregistered by the Nairobi City County. The licensing department records show that there were 105,800 enterprises with valid NCC trade licenses registered under ten clusters with various business codes in 2020. Out of these, 32100 licensed firms were designated as youth owned and operated in several business areas such as general retail commerce, transportation, hairdressing, and fashion design (NCC, 2020). The target demographic included proprietors, managers and employees of youth firms in various areas who were between the ages of 20 and 35. In the year 2020, information about youth-owned firms was gathered from the Nairobi County Council's list of licensed youth enterprises.

Sampling Design and Sample Size

Sampling is the methodology of selecting a specific subset of a population to participate in a research investigation. It pertains to the mathematical process of choosing a subset of a population of interest in a research endeavour (Ogulah, 2005). As an illustration, members within a collective may possess diverse backgrounds, encounters, and viewpoints that can impact their conduct and reactions. Moreover, the procedure of categorising a cluster of topics might fail to consider specific subcategories or marginalised

communities within the broader category, resulting in an inadequate portrayal of the entire populace. Based on this, the researcher employed a method of sampling known as convenient sampling to choose a sample size of 500 individuals from a population of 32,100 young business owners residing within the geographical limits of Nairobi City County. This approach enabled the researcher to target respondents who were willing and able to respond to study questions based on business experience and personal interest (Etikan, Musa & Alkassim 2016).

This research employed both descriptive and explanatory none experimental research designs. The descriptive research design was chosen because of its suitability in describing the characteristics of a particular individual, or a group of individuals since the researcher did not have control over the variables. The descriptive design affords the researcher an opportunity to capture a population's characteristic and test hypothesis (Cooper & Schindler 2008). The population for this study was comprised of the 43 commercial banks in Kenya .Secondary data was obtained from banks annual financial statements, bank supervision reports by CBK and Kenya Bureau of Statistics for the period between 2007 and 2015.

Empirical Model

The multiple regression equation presented in equation 3.1 was employed in data analysis

$Y= \beta_0 +\beta_1 MPU+ \beta_2 IU+ \beta_3 AS+ \varepsilon i$ … ..... (3.1)

Where: **Independent Variables:**

MPU –Mobile phone usage

IS – Internet Usage

AS – Agency Services

Dependent Variables:

Y- Financial inclusion

RESULTS AND DISCUSSIONS

Demographic Analysis

The study sought to establish the connection of associating financial technology, financial literacy and financial inclusion among the youth owned businesses in Nairobi's Central Business District. In response, the background information such as gender, experience with mobile-based financial services, and level of education was collected from the respondents. Table 4.1 was used to present the results.

Table 4.1: Demographic Profiles

		Freq. (N=495)	%
Gender	Female	296	59.8
	Male	199	40.2
Experience with mobile financial services	1 to 2 years	38	7.7
	3 to 5 years	188	38.0
	Above 5 years	269	54.3

Level of education	Primary education	32	6.5
	O level	24	4.8
	College- Certificate & Diploma	205	41.4
	University undergraduate	158	31.9
	University Postgraduate	76	15.4
Active Online Customer platform	Yes	495	100

Source: Study data (2022)

From the table, it was established that out of the total 495 participants, 296 were female (59.8%) and 199 were male (40.2%). Hence concluding that more women were using mobile financial services among the youth operating businesses in Nairobi Central Business District. This indicates that there is a need to improve access to financial technology and credit information sharing among male youth in the region, in order to promote financial inclusion.

With respect to the degree of engagement with financial services, 7.7% of participants possessed a span of 1 to 2 years of familiarity with mobile financial services, while 38% had a duration of 3 to 5 years of familiarity. Additionally, a majority of 54.3% had an experience exceeding 5 years, thereby suggesting a diverse spectrum of familiarity with mobile financial services among the younger population in the central business district of Nairobi. In addition, the analysis shows a wide range of knowledge and experience with mobile financial services among the youth in the region, which could have implications for financial inclusion. It also suggests that there is a need to increase access to financial technology and credit information sharing among the youth in the region, in order to promote financial inclusion given over half of the population seem to be new entrants into the CBD businesses.

Further, the results show that there is a wide range of educational attainment among the youth in Nairobi Central Business District. 6.5% had primary education, 4.8% had O level, 41.4% had college certificate or diploma, 31.9% had university undergraduate, and 15.4% had university postgraduate. This indicates that there may be a need to increase access to financial technology and credit information sharing among youth with lower levels of education, in order to promote financial inclusion. Further, the findings also show that the respondents had access to an active online customer platform. This indicates that there is a high level of access to financial technology among the youth in Nairobi CBD, which could create opportunities for financial inclusion.

The results support that OECD (2019) study which realized that the adoption of increasingly complex financial services such as mobile payments and banking is influenced by an individual's gender, wealth and literacy, in addition to the service rates and transaction volume.

As a consequence, the development of new products should be mindful of the diverse gender needs of the youths in informal enterprises to further enhance financial inclusion. Furthermore, the financial institutions should develop strategies that target the youths in the Nairobi's Central Business District to enhance their access to financial products and services. Moreover, financial institutions should also ensure that the products they offer are gender-sensitive, and provide competitive rates that are tailored to the needs of the different profiles in terms of experience and levels of education.

Correlation Analysis

Correlation facilitates the quantification of the degree of association. The correlation coefficient aids in quantifying the degree of association between two or more variables. The magnitude and scope of the association between two variables is, undoubtedly, one of the paramount concerns in the field of statistics. A

correlation coefficient of 1 signifies an ideal positive correlation (i.e., as one variable escalates, the other also exhibits an increase). A correlation coefficient of -1 signifies an ideal inverse correlation (i.e., as one variable ascends, the other descends). A correlation coefficient of zero signifies the absence of any correlation between the two variables.

Table 4.4 presents the Spearman's rho correlation coefficient among diverse variables associated with financial inclusion.

Table 4.2: Correlation Analysis

		Mobile phone usage	Internet usage	Agency services	Financial inclusion
Spearman's rho	Mobile phone usage	1.000			
	Internet usage	.080	1.000		
	Agency services	.102*	.437**	1.000	
	Financial inclusion	.325**	.665**	.500**	1.000

Source: Study data (2022)

The results show that there is a positive correlation between mobile phone usage and internet usage (rho = .080, financial literacy and financial inclusion (rho = .651). internet usage and financial inclusion (rho = .665). mobile phone usage and financial inclusion (rho = .325) is relatively weak. In addition, many of the correlation between the variables are significant at 95% and 99% CI (demoted by * and ** respectively), except for mobile phone usage versus internet which are not statistically significant at either confidence level.

Hypotheses Testing

The study aimed to establish the effect of Financial Technology on Financial Inclusion among the youth in Kenya. In order to answer the objectives, the corresponding hypotheses were tested using the Beta coefficients and the P values in the estimated multiple regression model at a confidence level of 95% (p-value = 0.05), and the findings were provided in table 4.9.

Table 4.3 Regression Coefficient

	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	.056	.166		.336	.737
Mobile phone usage	.237	.026	.260	9.115	.000
Internet usage	.414	.035	.485	11.828	.000
Agency services	.256	.040	.250	6.364	.000
a. Dependent Variable: financial inclusion					

Source: Study data (2022)

$Y= \beta_0 +\beta_1 MPU+ \beta_2 IU+ \beta_3 AS+ \varepsilon i$ … ..... (3.1)

Financial Inclusion = 0.056 + 0.237 MPU + 0.414 IU + 0.256 AS

Where:

MPU –Mobile phone usage

IS – Internet Usage

AS – Agency Services

H_{01}: Mobile phone usage has no significant effect on financial inclusion among the youth operating businesses in central business district, Nairobi County, Kenya.

The first objective of the study sought to establish the effect of mobile phone usage on financial inclusion among the youth operating businesses in central business district, Nairobi County, Kenya and the findings are as shown in Table 4.9. To achieve this objective a null hypothesis, **$H0_1$** above was formulated. In Table 4.9 the coefficient of mobile phone usage (β=0.237, p=0.000<0.05) shows a positive statistically significant relationship between mobile phone usage and financial inclusion. Therefore, the null hypothesis that Mobile phone usage has no significant effect on financial inclusion among the youth operating businesses in central business district, Nairobi County, Kenya was rejected at five per cent level of significance. The results in line with the findings of Asonguh, (2015) which stated that allowing access to formal financial services decreasing the information asymmetry through the dissemination of information thus lowering income disparities. As a consequence, mobile phone use is likely to expand access of financial technology and potentially enhance financial inclusion (Andrianaivoh & Kpodar, 2012; Anarfo*et al.,* 2019).

H_{02}: Internet usage has no significant effect on financial inclusion among the youth operating businesses in central business district, Nairobi County, Kenya.

The second objective of the study sought to establish the effect of internet usage on financial inclusion among the youth operating businesses in central business district, Nairobi County, Kenya and the findings are as shown in Table 4.9. To achieve this objective a null hypothesis, **$H0_2$** above was formulated. In Table 4.9 the coefficient of internet usage (β=0.414, p=0.000<0.05) shows a positive statistically significant
relationship between internet usage and financial inclusion. Therefore, the null hypothesis that internet usage has no significant effect on financial inclusion among the youth operating businesses in central business district, Nairobi County, Kenya was rejected at five per cent level of significance. Similar findings by Salahuddineh & Gowh, (2016); Chen *et.al,* (2018) also realized that internet use promotes financial inclusion and financial depth. Bongomine*et al.,* (2018) and Chinodah & Kwendah, (2019) also support the findings given they noted the increased usage of mobile phones and the Internet were beneficial instruments for encouraging financial inclusion as well as for the growth of the financial sector by lowering the cost of financial services and making financial organizations' operations more efficient and flexible.

H_{03}: Agency services have no significant effect on financial inclusion among the youth operating businesses in central business district, Nairobi County, Kenya.

The third objective of the study sought to establish the effect of agency services on financial inclusion among the youth operating businesses in central business district, Nairobi County, Kenya and the findings are as shown in Table 4.9. To achieve this objective a null hypothesis, **$H0_3$** above was formulated. In Table 4.9 the coefficient of agency services (β=0.256, p=0.000<0.05) shows a positive statistically significant relationship between agency services and financial inclusion. Therefore, the null hypothesis that agency services has no significant effect on financial inclusion among the youth operating businesses in central business district, Nairobi County, Kenya was rejected at five per cent level of significance

The results agree with the findings of Barrett &Michael (2010) which noted that agency services provided several benefits to both the bank and the agent, including increased savings mobilization, increased public

awareness and output on commercial banks' perspective, and commissions for agents. In addition, Ivatury and Mass (2008) noted that agency banking has sparked a lot of interest because of its possibility to provide financial services to a large number of people near the foot of the pyramid.

CONCLUSIONS AND POLICY RECOMMENDATION

Conclusions

In view of the research objectives, analysis and inference, several conclusions were made. The findings of this analysis indicate a significant correlation between the utilization of mobile phones, internet usage, and agency services, and the financial inclusion among young youth operating businesses in Nairobi CBD.

Mobile phone usage was found to be a key enabler in financial inclusion since it had a positive significant effect .In order to enhance the utilization of financial technology, mobile platforms, it is imperative to allocate resources towards investments in internet technology, encompassing broadband internet, financial service platforms, and other related technological advancements. Financial service providers have the potential to enhance the accessibility and utilization of financial services by offering a diverse array of products and services through phone and internet platforms. Furthermore, the acquisition of financial literacy and knowledge can be fostered through formal education and specialized training, thereby facilitating enhanced accessibility and utilization of financial services. The absence of an association of credit information sharing and financial inclusion implies that credit information sharing is merely a single component within the realm of financial services. Consequently, other factors may hold greater significance in determining the extent to which youths in Nairobi CBD are able to access and utilize financial services.

In determining whether mobile phone usage can influence financial inclusion of youths in the Nairobi CBD, a conjecture that the utilization of mobile phones has no noteworthy impact on the level of Financial Inclusion among youth operating businesses in the Central Business District of Nairobi County, Kenya was formulated. The findings established that the concept of mobile phone utilization has a probability of impacting the young individuals in the central business district of Nairobi to embrace financial services provided through mobile platforms, consequently refuting the null hypothesis as it is found to be false.

Internet usage was found to a key determinant of in financial technology and hence aids to increase financial inclusion. The results show that internet usage had the largest weight among the five constructs, thus strongly associated with financial inclusion. it is imperative to allocate resources towards investments in internet technology, encompassing broadband internet, financial service platforms, and other related technological advancements.

The findings illustrate that the utilization of agency services facilitated an increase in the availability of service delivery, consequently influencing the financial inclusion among youth operating businesses in Nairobi CBD, Kenya. The study concludes that mobile phone usage, internet access, agency services are important and positively connected predictor characteristics that may be used to forecast financial inclusion among the youth.

Policy Recommendations

Based on the established relationships, the research has several recommendations. Policy makers should consider the importance of mobile phone usage when designing policies that are aimed at improving financial inclusion among the youth in the Nairobi CBD. In addition, agency service provider's s should consider developing mobile-based platforms that are tailored towards the needs of the youth in the Nairobi CBD. More outreach should be conducted to spread awareness about the importance of mobile phone usage

for financial inclusion of the youth in the Nairobi CBD.

In respect to internet usage, policy makers should take into account the effect of internet usage on youth financial inclusion when formulating policies. For example, policies should be developed to increase access to internet in rural areas, as well as incentivize youth to use internet services to increase their financial inclusion. Additionally, financial institutions should provide digital banking services to the youth in order to increase their access to financial services.

Banks and other financial institutions that offer agency services might use authorized agents to expand their branch and service network. As a result, more people are able to benefit from the services provided by financial institutions. In addition, they may consider increasing their presence in the Central Business District, perhaps through partnerships or collaborations with other providers using youth friendly strategies to ensure that youth in the area are able to access the financial services they need.

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