

Digital Borrowing And Personal Finance Among Students In Selected Christian Universities In Nairobi County – Kenya

SAMUEL MAINGI NZISA

PhD. Business Administration (Finance- Ongoing), MBA (Finance),
BCOM (Finance)
Accountant - Daystar University
Email: samuelmaingi32@gmail.com

CHARLES KATUA KITHANDI

PhD. Business Administration (Finance- Ongoing), MSC (Finance & Economics), MBA (Finance),
BA. (Economics), CPA.K, CPS-F
Lecturer: School of Business and Economics - Daystar University
Email: charleskithandi@gmail.com

DOI: 10.29322/IJSRP.13.04.2023.p13608
<http://dx.doi.org/10.29322/IJSRP.13.04.2023.p13608>

Paper Received Date: 15th February 2023
Paper Acceptance Date: 27th March 2023
Paper Publication Date: 6th April 2023

Abstract- Technological advancements in the financial sector have revolutionized the order of borrowing. Digital lending platforms have emerged, offering quick access to funds by many borrowers with no collaterals, no need for paperwork, complete and remote accessibility, and the use of digitized data to determine the creditworthiness of the borrowers. The purpose of this study was to investigate the relationship between digital borrowing and personal finance among students in selected Christian universities in Nairobi County, Kenya. The study used the financial intermediation theory, innovation diffusion theory, time preference theory, and the finance and inequality theory. A descriptive research design was utilized for primary and secondary data, and the primary data was collected using a questionnaire. The data was then cleaned, coded, and organized for analysis using the Statistical Package for the Social Sciences (SPSS). After analysis, the data was presented in charts, tables, and figures. The findings indicated that the most common digital borrowing platforms are Okoa Jahazi, Tala, Branch, Fuliza, Mshwari, KCB Mpesa, KCB App, MCo-op Cash, and Eazzy Banking App. The study also established that students in the sampled Christian universities highly depended on their parents for upkeep and that their digital loans were mostly for emergencies and investment activities. Spearman correlation was used to determine the relationship between the dependent variables (savings, spending, and investment) and the independent variables (application-based lending and mobile-based lending), resulting in a moderate positive correlation and a significance level of $P < 0.001$. It was concluded that digital borrowing significantly and positively affects personal finance. The study recommends a change of the digital credit system and an efficient and effective regulation for all digital lenders.

Index Terms- Digital borrowing, Personal finance, Finance, Mobile loans

1. INTRODUCTION

The concept of borrowing is as old as the invention of money. The 21st century has witnessed tremendous technological advancements in financial systems, providing fast and convenient access to a wide range of financial services. According to Hermes and Lensink (2004), technology has revolutionized the order of borrowing, digitally transforming the credit market landscape leading to growth in digital borrowing. Chen and Mazer (2016) described digital borrowing as the process of securing loans from digital platforms by use of digitized data to inform credit decisions and build intelligent customer engagement.

Money is a scarce resource that requires sound financial planning in making the most out of the available income and savings. However, as Campbell (2006) emphasized, good personal financial planning requires excellent financial literacy that facilitates the making of savvy financial decisions within your financial constraints. Menear et al. (2008) argued that personal finance includes all personal and family resources, which help in achieving financial success. At an individual level, personal finance involves how a person spends, saves, protects, and invests their financial resources.

Over the recent past, the financial sector has witnessed rapid technological advancements that have led to the emergence of digital lenders with the growth in mobile money and mobile banking services (Chen & Mazer, 2016). Digital lending platforms have quickly grown by tapping into the increasingly digitized and accessible customer data to design and remotely deliver digital products to their customers. This has resulted in a new category of borrowers (digital borrowers), thus enhancing financial inclusivity by focusing on emerging markets and competing for traditionally underserved, down-market customers, such as the youth in the society.

With the continuous rise in world population, the demand for credit has seen significant growth in both developed and emerging economies. Notably, the 2008-2009 global financial crisis, as explained by Parada and Bull (2014), quickly dissipated customer trust surrounding financial services leading to more stringent measures during loan applications. Such actions created a lending gap as a considerable portion of borrowing needs were left underserved by formal financial institutions. Kenya, a fast-growing digital economy, has witnessed the widespread penetration of mobile technology that has resulted in the transformation of the country's socio-economic development (Central Bank of Kenya [CBK], 2015). Mobile technologies have led to the development of new and innovative channels of communication between people, businesses, and governments, ease in money transfer, creation of employment, as well as fast and convenient borrowing.

Traditionally, most Kenyans relied on informal lenders, relatives, and friends for credit. People would exchange items for others, while others would secure loans in exchange for collaterals in the form of household assets. According to Nyangosi, Arora, and Singh (2009), the banking industry has, over the years, embraced mobile technology in a bid to deliver better financial services to its customers. Furthermore, Kathuo, Rotich, and Anyango (2015) argued that customers are no longer required to wait on queues to be served or even in carry out other financial transactions. Today, digital credit has outlived the total informal lending and borrowing from shylocks, friends, and relatives. Hermes and Lensink (2004) argued that the digital credit market landscape has entrenched formal financial inclusion with fast and convenient access to funds by many borrowers, no collaterals required, no or little paperwork needed, complete and remote accessibility, and use of digitized data to determine the creditworthiness of the borrowers.

Access to gainful employment and income opportunities for young people in Kenya has been hindered by corruption, the lack of capital, information, and relevant skills (International Labour Organization, 2013). For financial breakthroughs, the majority of Kenyans have turned into massive borrowing. However, formal financial institutions consider lending to the youth unprofitable, thereby enforcing high screening measures in a bid to lock them out of their loan facilities. Moreover, many young people are unable to put up acceptable collaterals for such loans, hence turning to easy, fast, and convenient digital loans (Vaidya & Roy, 2018).

2. LITERATURE REVIEW

2.1 Empirical Literature Review

Empirical literature review has been described by Zikmund, Babin, Carr, and Griffin (2010) as a search of the published works that provide relevant empirical results to the topic being studied. It involves a comprehensive survey of the previous inquiries related to a research question. The empirical review of this study allowed the researcher to bring out the study's intellectual and historical context, clearly indicating the study's importance. The development of mobile technology in digital financing is on the rise in the business world. Therefore, this section of the study provides empirical evidence of some practices affecting digital borrowing and personal finance among Christian university students.

Makena (2018), using a descriptive research design, looked at consumer protection in digital credit in Kenya. The study established that if digital credit is not properly regulated, there will be the possibility of the unbanked, poor consumers with limited financial knowledge being taken advantage of. Using the economic theory of market failure, the researchers adopted following the study variables: easy access to multiple loans, charging of high-interest rate, hefty penalties of default, lack of disclosure of prices, terms and conditions, and easy access to credit. The study brings out government regulation as a factor influencing digital borrowing concerning personal financial practices among university students and recommended a clear legal framework that establishes a sufficient authority to protect consumers. Moreover, the finding that financial literacy affects over-indebtedness that leads to unintentional borrowing also helps inform savings and expenditure/spending as critical variables of this study.

Musha (2014) investigated the factors influencing uptake of credit by the youths in Nairobi County, Kenya. The study adopted the theory of imperfect information and information asymmetry to establish credit terms' influence on the uptake of credit by youth in Nairobi County. The objectives were to determine the extent to which awareness of credit facilities influences Nairobi County's youth uptake of credit and the influence of entrepreneurial skills on the credit uptake. The population of the study included all the youth in Nairobi County aged between 18 and 35 years, numbering 1,462,803, out of which a sample of 381 was randomly selected. Primary data was collected using structured questionnaires administered by the researcher. The regression of the study results revealed that 82.5% of the amount of credit taken by the youth was influenced by the credit terms, the business and entrepreneurial skills, and the awareness of the youth. The study recommended the improvement of the credit terms offered to the youth as well as equipping them with the necessary financial knowledge regarding their economic development. These findings form a strong base that informs the reasons behind the growth of digital borrowing among the youth and help in the understanding of the behaviour of Christian university students concerning digital credit.

In a study on the factors affecting loan utilization among youth in Nakuru County, Birech (2013) focused on the effect of the investment site and investment knowledge on loan utilization. The study targeted a population of 83,102 youth, out of which a sample of 314 was randomly selected. Informed by the theory of financial intermediation, the study found out that there is a significant correlation between entrepreneurial knowledge, investment site, and uptake of credit by youth. This study helps in understanding the investment and saving behaviours of Christian university students and how the same affects the students' financial practices.

Kariuki (2018) carried out a study on the effect of debt literacy on the indebtedness of formal sector employees in Kenya. The study adopted the learning theory, life-cycle theory, and goal setting theories. Utilizing a descriptive research design, the study targeted a population of about 2.5 million formal sector employees and used primary data collected by use of a self-administered questionnaire. The study variables used included debt literacy, debt experiences, borrowing behaviour, debt knowledge, and debt capability. Three hundred eighty-four questionnaires were circulated, out of which 337 were returned. Of the returned questionnaires, 292 were considered usable. Using ANOVA, the study found the debt literacy score of the employees to predict indebtedness significantly. Further, the age of the employees significantly predicted indebtedness. Through Pearson's correlation analysis, the constructs and sub-constructs were found to be uncorrelated.

In Kariuki's (2018) study, it was established that financial knowledge and the ability to make sound debt decisions affected the economic standards of formal sector employees. The study recommended the need for financial awareness and education to improve the debt literacy levels of these employees. This study is useful in expounding on personal finance practices among Christian university students.

Cheston and Kuhn (2002) did a study in Bloomfield, US, on "empowering youth through micro finance innovations". They randomly selected a sample of 65 out of a targeted population of 18,345 and based their study on the theory of imperfect information. The findings of the study showed that although youth's access to financial services had been increased by the development of mobile technology, loans given to youth differ in size according to one's location - either urban or rural areas. The study concluded that the youth in urban areas have more access to credit. Although most youth have easy access to credit, a majority of them do not apply for credit because of the interest charged. Therefore, this study informs the growth of mobile-based lending as a key determinant of digital borrowing by Christian university students.

Since the acceptance of mobile technology, the use of mobile phones to offer financial services has been on the increase. As per the findings of a survey undertaken in the US by Fiserv (2016), focusing on banks processing transactions through mobile systems, many more people have gained access to mobile phones now than before. The findings suggested an immediate increase in the average number of product holdings, mostly loans. The study also showed that mobile bankers had made a revenue of 72% more than branch-only customers. This indicates that mobile technology's growth has dramatically increased access to financial services to most people now than before.

On technological innovations, Kyeyune, Mayoka, and Miiro (2012) assessed the use of mobile money in the telecommunications sub-sector within Uganda and the rest of East African countries. The study used the diffusion of innovation theory and adopted a survey research design in collecting and analyzing both primary and secondary data. The report indicates mobile money to have started in the year 2009 as a channel for generating some extra cash (side income) to supplement revenues of telecom operators. Over the years, mobile money and other mobile payment systems have become a core business, forming a basis of competition in the industry. Additionally, commercial banks have adopted mobile technology in their processes (Kyeyune et al., 2012). The adoption of mobile money by commercial banks has dramatically led to the growth of digital borrowing.

In her study on the quality of use of automated platforms in offering financial services, Wanja (2016) adopted the innovation of diffusion theory. She emphasizes reliability, accessibility, security, and efficiency as the key considerations for a customer in deciding what automated banking service to use. The study concluded that mobile banking and the use of automatic teller machines are so widespread amongst Kenyan bank customers. The findings showed reliability, security, and ease of use to have a negative effect on customer loyalty when using mobile banking platforms. These results are useful to the current study in that they help identify the digital borrowing platforms commonly used by Christian university students in Nairobi County, Kenya.

2.2 Theoretical Literature Review

2.2.1 Financial Intermediation Theory

The theory of financial intermediation was developed in the 1970s based on the principles of imperfect information with the contributions of Rothschild and Stiglitz (1976) and Akerlof (1970). Financial intermediation theory asserts that the existence of intermediaries in business dealings is to minimize the transaction costs by offering a channel for the transfer of funds from the surplus units (savers/lenders) to the deficit units (investors/borrowers) in an economy (Medoff-Cooper, McGrath, and Shults, 2002). Therefore, financial intermediation theory emphasizes the role played by intermediaries in an economy by focusing on transaction costs, information asymmetry, and regulation methods. As their name suggests, financial intermediaries such as banks, brokers, and micro-finance institutions mediate between the providers and users of financial capital by reducing transaction costs and liquidity risks and

providing information as well as debt renegotiation. However, an extreme view of this theory is that it assumes a perfect market where intermediaries have no role.

Technological advancements have led to the emergence of structured finance markets that deal with structured finance instruments. Unlike traditional securitization that was composed of large pools of loans, structured finance instruments represent a form of securitization technology that deals with small pools of loans by pooling of financial assets (such as loans and bonds), de-linking of credit risk from the asset pool and issuance of tranching securities backed by the asset pools. Narajabad (2012) argued that the use of technology to access and administer credit has dramatically reduced the transaction and information costs associated with borrowing, thereby driving demand and expanding the supply of credit. Technology has positively transformed the borrowing process; progressively transforming borrowing from the traditional borrowing methods to the introduction of credit cards to recent advancements in digital credit.

In response, financial institutions have become more efficient in screening for possible default risks, thereby providing loans at relatively low-interest rates (Narajabad, 2012). This has resulted in reduced transaction costs to the borrowers and to the financial intermediaries as many financial services have been left to the consumers of such digital products to serve themselves at their convenience. As a result, digital borrowing platforms have grown to fill the gap taken up by intermediaries and hence reduced the bureaucratic procedures while applying and obtaining a loan facility. However, as much as digital money has reduced the roles played by the financial intermediaries such as brokers and other financial institutions in the traditional lending markets, such intermediaries still exist.

Differences in information and communication technology capability have seen some potential customers stay back, raising many questions on the importance of such intermediaries in digital borrowing (Cohen & Nelson, 2011). As observed by Stiglitz (2003), the rapid technological advancements in financial systems have resulted in the deepening of financial markets, thereby rendering financial intermediation useless. The rise in technological advances and the advent of financial technology has dramatically transformed economic systems in Kenya, as evidenced by the wide adoption and continued growth of mobile technology in the country. As a result, many digital credit platforms have emerged as financial intermediaries, increasing the accessibility of funds to individuals over mobile phones (Sánchez, 2012). The financial intermediation theory was deemed necessary for this study, owing to its presentation of the digital lending platforms as value-creating intermediaries in financial transactions that provide a convenient, fast, and steady flow of funds from surplus units (digital credit platforms) to the deficit units (Christian university students),

2.2.2 Finance and Inequality Theory

According to Piketty (1997, 2000), access to funds plays a critical role in minimizing the continually widening income inequality gap between those who have access to finances and those who do not have. In agreement, Demirgüç-Kunt and Levine (2009) maintained that “finance can shape the gap between the rich and the poor and the degree to which that gap persists across generations. Furthermore, by affecting the allocation of capital, finance can alter both the rate of economic growth and the demand for labour, with potentially profound implications on poverty and income distribution” (p. 2).

However, finance does not act alone without the financial sector policies, economic development, and financial innovation that shape the functioning of the financial system, resulting in issues of inequalities. As Piketty (2000) alluded in the finance and inequality theory, the availability, access, and use of finances determine the economic stability of individuals by enabling them to develop themselves economically, thereby reducing the income inequality gap.

The theory indicates that under an imperfect credit market, access to finances is only for the rich, and therefore, the cross-dynasty differences in human capital persist (Baland & Robinson, 1998). According to this theory, credit markets possess a discriminative attitude in their lending activities by denying the less fortunate the opportunity to accumulate human capital. Lack of

access to finances has led to the low economic wellbeing of the poor as it hampers their ability to build up the desired human capital for sustainable development. According to this theory of finance and inequality, the availability and use of money can reduce the inequality gap created by limited financial resources (Piketty, 2000). Therefore, the theory emphasizes the use of financial services to improve both human and physical capital.

The theory also postulates that the recent technological developments in financial systems have opened the financial sector by enabling more access by a previously underserved market, thereby improving the market's social and economic welfare. However, the theory has been criticized for recognizing finance as the only important bridge in the inequality gap while ignoring other parameters, such as information asymmetry, that are detrimental in shaping of the future of citizens. This theory was considered essential for this study as it presents the inequalities in the living standards among Christian university students and their desire to bridge such inequalities through digital borrowing.

2.2.3 Innovation Diffusion Theory

George and Ouma (2013) defined diffusion as “the process by which an innovation is communicated through [a] certain channel over time among the members of a social system” (p. 87). Innovation, according to Mitchell (1990), involves the deliberate application of information aimed at the generation of unique ideas that become successful in carrying out business dealings. Rogers (1995) argued that innovation diffusion occurs when innovation is imparted through different channels to different users of the same social beliefs over some time. This theory assumes that a design diffuses in such a way that some individuals become more apt in the adoption of the new idea than others.

In this theory, Rogers (1995) explored different ways and channels through which new and innovative ideas are passed from one group or generation to another. The theory classifies the users of innovative ideas based on multiple factors such as trialability, simplicity, ease of detection, and absolute advantage (Monyoncho, 2015). As a result, Echchab and Hassanuddeen, as cited in Midika (2016) noted that the theory classifies the users as modernizers, early modernizers; and timely mass, late mass and stragglers. As much as this theory is applicable to most of the technologies used in digital borrowing, it is highly criticized for not being appropriate for complex technologies.

In Kenya, digital borrowing is an innovation that came due to technological developments in the financial sector. Through digital borrowing, financial services have become widely accessible through mobile and online platforms. This theory viewed as key in this study since it explicates the approaches through which Christian university students successfully adopt emerging digital borrowing platforms to satisfy their (the students) personal finance needs.

3. RESEARCH METHODOLOGY AND MODEL SPECIFICATION

This study adopted the descriptive research design was adopted since the researcher's aim was to explain the study facts through statistical means (Arvind & Vijay, 2013). A descriptive research design helps researchers to objectively collect data that accurately explains the research problem (Chandran, 2004). Moreover, the design was considered appropriate for this study due to its in-depth identification of the commonly used digital borrowing platforms by Christian university students in Nairobi County.

In this study, the population included all the students in the fully chartered Christian universities in Nairobi County, Kenya (Commission for University Education, 2017).

Table 3.1: Study Population

Code	University name	Year of award of charter	Estimated number of students by 2019
------	-----------------	--------------------------	--------------------------------------

01	Catholic University of Eastern Africa	1992	2793
02	Daystar University, Nairobi Campus	1994	2806
03	Kenya Methodist university	2006	3136
04	Africa Nazarene University	2002	1418
05	Pan Africa Christian University	2008	600
06	St. Paul’s university	2007	1823
07	Strathmore University	2002	4610
08	Adventist University of Africa	2013	623
09	Presbyterian University of East Africa	2007	2326
10	Africa International University	2011	3,200
11	KAG East University	2016	500

Source: Private Christian Universities (in Nairobi County) Registrars’ - 2019 Data

The respondents were selected based on both probabilistic sampling stratified sampling techniques. Primary data was collected through structured questionnaires, while secondary data was extracted from past empirical studies. As Kothari (2004) postulated, a questionnaire is a list of questions written in a defined order on a form or forms, with each question designed to address the research objectives and questions.

The researcher conducted pretest at St. Paul’s University, which was part of the study population, but not the target population. The pretest participants were randomly selected from among the students of the university. During the pretest, the researcher identified some confusing and/or sensitive items and, consequently, did the necessary corrections.

4. PRESENTATION AND DISCUSSION OF RESULTS

4.1 Digital Borrowing

The study sought to determine whether the respondents had ever engaged in digital borrowing from any platform. The responses are presented in Figure 4.8.

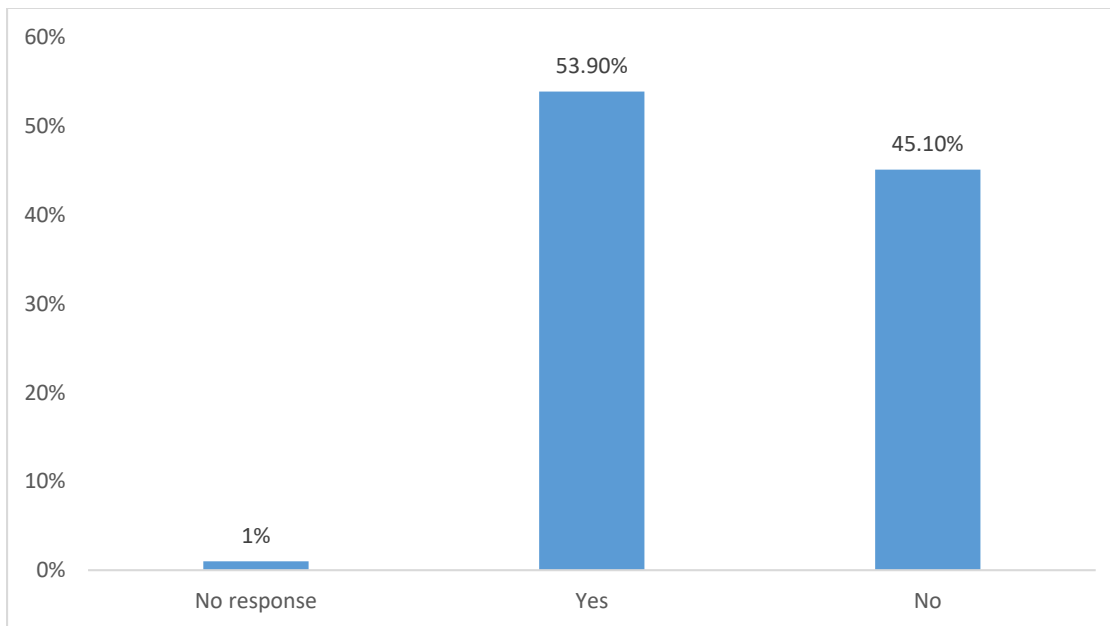


Figure 4.1: Respondents’ Interaction with Digital Borrowing

As shown in Figure 4.8, 159(53.90%) of the respondents reported having engaged in digital borrowing, while 133(45.10%) indicated that they had not. Some of the respondents, 3(1%), did not respond to the question. Based on this finding, it can be inferred that most of the students in Christian universities have interacted with digital borrowing.

Regarding the respondents who reported to have engaged in digital borrowing, the study further sought to determine the rate at which they borrowed from digital platforms. Table 4.3 presents the results of this analysis.

Table 4.1: Frequency of Borrowing from Digital Platforms

	Frequency	Percent
Regularly, i.e. every time I don't have enough money	49	17
Once every month	18	6
Once or twice every Semester	19	6
Rarely	98	33
Missing data	111	38
Total	295	100

As shown in Table 4.3, 98(33%) of the respondents rarely borrowed, while 49(17%) regularly borrowed every time they did not have enough money. A further 18(6%) borrowed once every month, while 19(6%) borrowed once or twice in a semester. Some of the respondents, 111(38%), were not able to indicate their frequency of borrowing.

In a nutshell, the findings show that 184(62.4%) of the respondents have engaged in digital borrowing. This result surpasses Vaidya and Roy's (2018) finding that 35% of Kenyans had taken at least one digital loan to meet their day-to-day financial needs.

Application-based Lending

The study sought to establish the application-based lending platforms that the respondents know of and/or have secured loans from. Table 4.4 presents the results of the analysis.

Table 4.2: Digital Borrowing Applications

		Responses	
		N	Percent
Digital application ever used	Tala	62	12.8
	Branch	52	10.7
	Mshwari	103	21.3
	Fuliza	58	12.0
	Okoa Jahazi	100	20.7
	KCB Mpesa	55	11.4
	Opesa	8	1.7
	HFC Whizz	3	0.6
	Stawika	1	0.2
	Eazzy Loan	6	1.2
	Saida	1	0.2
	Okash	12	2.5
	Zenka	2	0.4
	Timiza	4	0.8
	Missing data	17	3.5
Total	484	100.0	

Most of the respondents reported having used one or more digital applications to secure soft loans. As the findings reveal, 62(12.8%) of the respondents had used Tala, 52(10.7%) had used Branch, and 103(21.3%) had used Mshwari. Additionally, 58(12.0%) had used Fuliza, 100(20.7%) had used Okoa Jahazi, and 55(11.4%) had used KCB Mpesa.

Furthermore, some respondents 4(0.8%) reported having borrowed money from Timiza, 2(0.4%) from Zenka, 12(2.5%) from Okash, 8(1.7%) from Opesa, 3(0.6%) from HFC Whizz, 1(0.2%) from Stawika, 6(1.2%) from Eazzy Loan, and 1(0.2%) from Saida. However, 17(3.5%) of the respondents did not give any response.

The findings indicate that application-based lending is widespread among students in Christian universities, with the most common applications being Okoa Jahazi, Tala, Branch, Fuliza, Mshwari, and KCB Mpesa. This is because these platforms allow their customers to borrow unsecured loans, which they repay within specific timeframes via mobile money technology (GSMA, 2015b).

Mobile-based lending

The study also sought to establish whether the respondents had bank accounts and presented the results of the analysis in Figure 4.9.

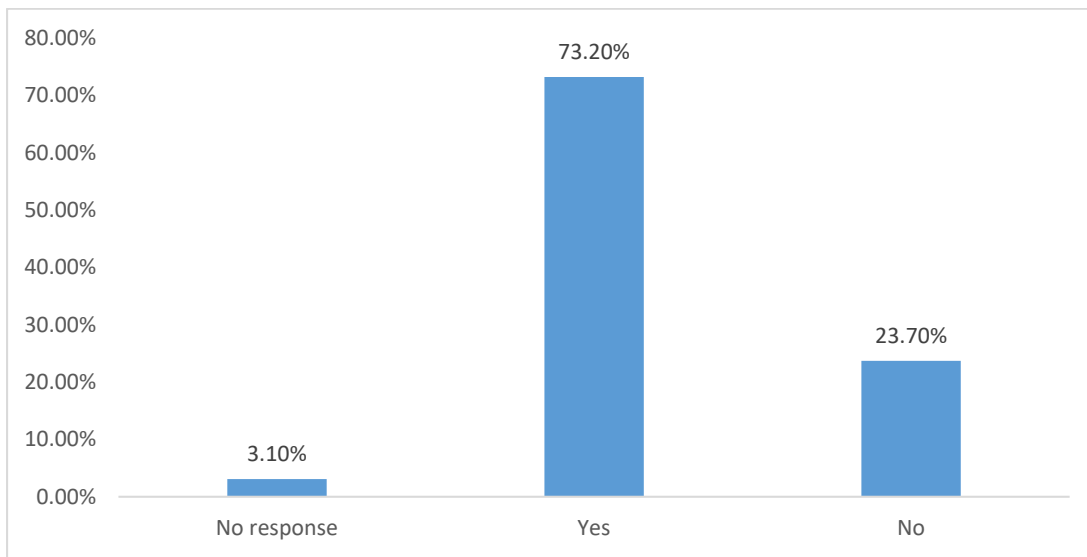


Figure 4.2: Possession of a Bank Account

As per the findings, 216(73.20%) of the respondents had bank accounts, while those who did not have any bank account were 70(2.70%). Some of the respondents - 9(3.10%) - did not respond to the question. This finding signifies that a majority of students in Christian universities have accounts with the many banks operating within the country.

According to the bank-focused theory, commercial banks have become technologically innovative by using mobile phone technology to conduct their business operations (Lyman et al., 2006). Technological advancements have necessitated many banks to go digital, resulting in mobile banking, where a majority of the banks have developed their own digital applications. Hence, many Kenyan banks have adopted mobile banking technology through which bank products are accessed at the customer’s convenience regardless of the distance between the customer and the bank.

These mobile banking developments motivated the researcher to seek to determine the common banking apps that the respondents are either using or have used before. The results of the findings are depicted in Table 4.5.

Table 4.3: Frequently used M-banking Applications

	Responses	
	N	Percent

Which bank loan app ever used	KCB APP	61	28.2
	MCo-oP Cash	35	16.2
	EAZZY Banking App	23	10.6
	Barclays Mobile App	9	4.2
	Pesa Pap	4	1.9
	NIC Now	6	2.8
	Others	15	6.9
	Missing data	63	29.2
Total		295	100.0

As shown in Table 4.5, the most commonly used mobile banking apps are KCB App - with 61(28.2%) respondents, MCo-op Cash - 35(16.2%), Eazzy Banking App - 23(10.6%), Barclays Banking App - 9(4.2%), Pesa Pap - 4(1.9%), and NIC Now App - 6(2.8%) respondents. Moreover, 15(6.9%) of the respondents indicated to have used other M-Banking apps (different from the ones provided above) such as NCBA Loop, DTB, Stanchart, and I&M banking apps. Nevertheless, out of the 216 respondents who indicated that they own a bank account, 63(29.2%) did not indicate the M-Banking app they had ever used. These findings clearly illustrate that M-Banking is a significant innovation that has become popular with commercial banks.

In summary, the study sought to determine the spread of digital borrowing among students in Christian universities. The results were as portrayed in Table 4.6.

Table 4.4: Statements on Digital Borrowing

	Missing data		Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Total	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	
Use M-banking	33	11.2	137	46.4	30	10.2	17	5.8	33	11.2	45	15.3	295	100
Financial knowledge	45	15.3	53	18	23	7.8	49	16.6	61	20.7	64	21.74	295	100
Use digital App	33	11.2	115	39	28	9.5	14	4.7	40	13.6	65	22	295	100
Prefer digital borrowing over friends	41	13.9	85	28.8	20	6.8	37	12.5	47	15.9	65	22	295	100

As the results (see Table 4.6) reveal, 78(26.5%) of the respondents agreed to have borrowed money from their bank accounts through their mobile phones, while 167(56.6%) stated that they had never done so. Some of the respondents, 17(5.8%), gave a neutral response on their usage of M-Banking, while 33(11.2%) did not give a response. These findings demonstrate that most of the students in Christian universities were not able to secure loans from their banks.

On financial literacy, 125(42.44%) of the respondents reported that they understood the terms and conditions of the loans they borrowed, while 49(16.6%) remained indifferent on the matter. However, 76(25.8%) of the respondents did not know the terms and conditions of the loans they had borrowed, while 45(15.3%) avoided the question. These findings agree with Lusardi and Tufano (2015), who argued that borrowers who do not understand their loans' terms and conditions were vulnerable to high-interest rates and are therefore more likely to default on their digital loans.

The results also showed that 105(35.6%) of the respondents had downloaded and borrowed money from digital applications, while 143(48.5%) had not. Some of the respondents, 33(11.2%), did not respond to having downloaded and/or borrowed money from

digital borrowing applications, while 14(4.7%) remained neutral. These results indicate the widespread use of digital apps with smartphone (mobile technology) growth among students in Christian universities.

The findings also revealed that 112(37.9%) of the respondents preferred borrowing money from digital applications rather than from friends and family, while 105(35.6%) preferred to borrow from friends and family. On the other hand, 41(13.9%) of the respondents did not respond to this question, while 37(12.5%) were neutral on their preference while securing loans from either digital platforms or family and/or family members. These findings, therefore, emphasize how digital borrowing has revolutionized the order of borrowing, introducing new and digital ways of accessing credit (Federal Reserve Board, 2016)

Personal Finance

To understand the respondents' view of personal finance, the researcher asked them to respond by either disagreeing, agreeing, or remaining neutral to various statements on their personal finance practices. The results are presented in Table 4.7.

Table 4.5: Statements on Personal Finance

	Missing data		Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Total	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Financial literacy is key to money management	19	6.4	41	13.9	2	8.5	41	13.9	57	19.3	112	38	295	100
Borrow for lifestyle cover	27	9.2	142	48.1	4	14.2	47	15.9	15	5.1	22	7.5	295	100
Borrow for emergencies	22	7.5	39	13.2	2	8.1	55	18.6	62	21	93	31.5	295	100
Borrow for investment purposes	25	8.5	97	32.9	3	10.2	42	14.2	36	12.2	63	21.4	295	100

While 169(57.3%) of the respondents believed that people with limited financial knowledge are more likely to fall into debt and overspend, 66(22.4%) indicated the opposite. Some of the respondents, 19(6.4%), avoided this question on financial literacy, while 41(13.9%) remained neutral. Lack of knowledge and experience in handling money could result in poor financial decisions driven purely by want and not need, as supported by a survey carried out by Volpe, Chen, and Liu (2006) in the United States. This shows a gap in financial literacy among students in Christian universities.

Regarding their reasons for borrowing money, 37(12.6%) of the respondents stated 'to keep up with their lifestyles'. Although some Christian university students borrow to sustain the highly growing consumerism culture that has become rampant among university students, this study contradicts findings by Ngugi et al. (2016).

The consumerism culture among the youth has led most of them to secure loans with respect to social spending (Mwaniki, 2014). However, this current study showed that the majority of Christian university students (155 respondents representing 52.5%) only borrowed for emergencies, while 63(21.3%) indicated that they borrowed for other different reasons/purposes. Some of the respondents, 22(7.5%), did not indicate whether they borrowed for emergencies or not, while 55(18.6%) were neutral.

Further, the results show that 99(33.6%) of the respondents had borrowed money for investment purposes. This finding resonates with Yunus (2008), who established that several Christian university students borrowed money for self-employment projects that would generate income and help them provide for their university’s financial needs. However, many students in Christian universities were not investment-minded, as supported 129(43.7%) of the respondents in this study.

Moderating Variables

Moderating the effect of digital borrowing on personal finance were credit rating standards and government regulations. The respondents were required to show their agreement or disagreement on various statements relating to the intervening variables. Table 4.8 captures the results of the analysis.

Table 4.6: Statements on Moderating Variables

	Missing data		Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Total	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Never defaulted	31	10.5	74	25.1	37	12.5	33	11.2	31	10.5	89	30.2	295	100
Blacklisted by CRB	29	9.8	133	45.1	38	12.9	35	11.9	23	7.8	37	12.5	295	100
Hostile and competitive environment	23	7.8	40	13.6	33	11.2	66	22.4	61	20.7	72	24.4	295	100
Regulation gaps	25	8.5	33	11.2	21	7.1	82	27.8	61	20.7	72	24.4	295	100

The first two questions relate to credit rating, while the last two relate to government regulation as moderating variables. From the analysis (see Table 4.8), 120(40.7%) of the respondents confirmed that they had never defaulted on any digital loan and 111(37.6%) indicated that they had met all their debt obligations before the deadline day. Some of the respondents, 31(10.5%), avoided responding on defaulting on digital loans, while 33(11.2%) were neutral. Consequently, these findings show that the majority of the students in Christian universities met their debt obligations in time. Nevertheless, the findings contradict a survey by the CBK, KNBS, and FSD (2019) that argued that mobile applications had caused many borrowers to become heavily indebted, leaving many struggling to repay their loans.

The findings further revealed that only 60(20.3%) of the respondents had failed to secure a loan as they had been blacklisted by the CRB. A high number of the respondents (40.7%) never defaulted on digital loans, and this explains why 171(58%) of the respondents had never been blacklisted by the CRB. This is supported by a research conducted by FSD Africa (2017) that argued that most digital borrowers pay on time. On government regulations, 133(45.1%) of the respondents believe that digital borrowing is not well regulated and that there are gaps that need good regulation. On the contrary, 54(18.3%) of the respondents are satisfied with the regulatory measures put in place by the government in relation to digital borrowing platforms. However, 25(8.5%) of the respondents failed to give their opinion on the government regulatory measures, while 82(27.8%) others were neutral about it.

Even though the DLAK and other entities have moved to fill the void with self-regulation, there is still a need for government oversight. Government regulation is also required as many digital borrowing platforms operate in a very hostile and competitive environment, as indicated by 133(45.1%) of the respondents. Good regulation of digital borrowing is also supported by Makena (2018),

who opined that if digital credit is not well regulated, there are chances of the unbanked, poor consumers with limited financial knowledge being taken advantage of.

Digital Borrowing and Personal Finance

The study sought to establish the relationship between digital borrowing and personal finance among students in Christian universities within Nairobi county, Kenya. To determine the strength and direction of the association between the two variables, that is, digital borrowing and personal finance, the Spearman rank correlation was employed. The results are displayed in Table 4.9.

Table 4.7: Digital Borrowing and Personal Finance

			Borrowing to spend	Borrowing to save	Borrowing to invest
Spearman's rho	Application-based borrowing	Correlation Coefficient	.286**	.264**	.422**
		Sig. (2-tailed)	.000	.000	.000
		N	295	295	295
	Mobile-based borrowing	Correlation Coefficient	.369**	.279**	.401**
		Sig. (2-tailed)	.000	.000	.000
		N	295	295	295

** . Correlation is significant at the 0.01 level (2-tailed).

In Table 4.9, two values are presented to explain the relationship between the dependent and independent variables: the correlation coefficient and significant values. The table also gives the sample size upon which the analysis was based. The correlation coefficient explains the strength and nature of the relationship between digital borrowing (digital variable) and personal finance (independent variable).

For the correlation coefficient, the strength of the relationship ranges from low to very high, where below 0.25 is considered as low correlation, between 0.25 and 0.5 as moderate, between 0.5 and 0.75 as high, and above 0.75 as very high correlation (Kothari, 2004). A correlation coefficient of 0 is used to indicate a situation where the variables are not associated at all.

Further, the significant value is used to explain whether the relationship is significant or not. Correlation is significant at the value where the correlation(X**) significant value is less than 0.01(X**, P<0.01). From the analysis, digital borrowing was significantly and moderately positively correlated to personal finance among students in Christian universities.

Opinion on Digital Borrowing

The study sought to find out the opinion of the respondents concerning digital borrowing platforms in Kenya. Table 4.10 presents a summary of the most common opinions from the analysis.

Table 4.8: Opinion on Digital Borrowing

	Frequency	Per cent
High interest	15	5
It helps during emergencies	90	30
Borrowers Information at risk	5	1
People get into debts	27	9
Should be used appropriately	12	4
They should be regulated	33	11
Useful when Invested	22	7
They should be friendly	4	2
Helpful but dangerous	7	2
Digital Borrowing is killing our economy	4	2
Digital Apps should evaluate the credibility of borrowers	4	2

I wouldn't use it	10	3
Missing data	62	21
Total	295	100

The findings showed that 90(30%) of the respondents believe that digital borrowing is very helpful during emergencies as supported by the Federal Reserve Board (2016), while 22(7) opined that digital loans are very useful when invested.

The findings also agree with a survey by the CBK (2019) that determined that at least one out of every five borrowers struggle to repay their loans. Some of the respondents, 27(9%), reported that digital borrowing had led many people into debt, thus explaining why 33(11%) of the respondents strongly recommended efficient regulation measures by the relevant authorities. Moreover, 15(5%) of the respondents felt that digital lending platforms charge very high-interest rates, giving more reasons for the need for good and effective regulation on this aspect.

Summary of Key Findings

1. The most common application-based lending platforms included Okoa Jahazi, Tala, Branch, Fuliza, Mshwari, and KCB Mpesa.
2. The most common mobile-based lending platforms were KCB App, MCo-op Cash, and Eazzy Banking App.
3. More than half, 59(53.9%), of the respondents, had engaged in digital borrowing.
4. A high number, 177(60%), of the respondents, did not earn any form of income and, therefore, depended on their parents/guardians for financial support.
5. Digital borrowing and personal finance among students in Christian universities were significantly and moderately positively correlated $r=.286$, $r=.264$, $r=.422$, $r=.369$, $r=.279$, $r=.401$, $P<0.001$.

5. CONCLUSIONS

According to the finance and inequality theory, the availability and access to financial resources reduce the inequality gap towards financial inclusion in any country. Moreover, money is never enough for university students who depend on their parents and guardians for all their financial needs. As much as Christianity emphasizes the spirit of contentment, financial stability puts it to the test as many Christian university students cannot keep up with the growing financial needs with barely enough money at their disposal. The findings of this study confirm that financial inadequacies have forced many students in Christian universities into borrowing. However, formal financial institutions offer restrictive collaterals that most university students cannot meet. This has made digital borrowing rather prevalent among Christian university students, with most of them securing loans from application-based platforms (such as Tala, Branch, Mshwari, Okash, and Fuliza) rather than from formal banking institutions that offer M-banking services.

This study's findings reveal that most students in Christian universities lack the appropriate financial skills necessary for keeping track of their personal expenses and personal debt. This was indicated by the results that revealed that most students in Christian universities have no background in finance, a strong confirmation of the argument that the majority of Christian university students have limited financial knowledge. However, contrary to the most obvious expectation that this would put many into huge and unmanageable debts, the findings reveal that most Christian university students clear their debts on time and are not influenced by their peers' highly growing consumerism culture (Khatun, 2018). According to the findings, most Christian university students obtain digital loans for

emergencies with a few borrowings for self-employment projects that would generate income and help them provide for their university's financial needs.

6. RECOMMENDATIONS

Based on the findings and conclusions of this study, the researcher came up with the following recommendations:

1. The study established that digital credit providers are not defined as financial institutions under the current banking act, the microfinance act, or the CBK act, thus remain unregulated. Regulation of digital credit providers would aid in establishing interest caps and putting emphasis on full financial disclosures, including key terms and all conditions for the lending products. These would include the loan costs, transaction fees on failed loans, bundled products, and any other borrower responsibilities.
2. Money is a limited resource whose management requires good financial literacy that aids in financial decisions. Therefore, the researcher recommends the establishment of new business courses and the improvement of the available business-related programs within Christian universities. Adopting such programs within Christian universities would help improve the students' financial knowledge and money management skills.
3. The findings of this study established that a single borrower can secure loans from various digital platforms simultaneously. As a result, the researcher recommends a change of the digital credit system across all platforms such that once a borrower secures a digital loan from one platform, he or she cannot secure another loan from another platform before they clear their previous loan in full.

6. REFERENCES

- Akerlof, G. (1970). The market for lemons: Quality uncertainty and the market mechanism. *The Quarterly Journal of Economics*, 84(3), 488-500.
- Arvind, P., & Vijay, A. (2013). Non-revenue water reduction: A tool for achieving 24x7 water supply. *IOSR Journal of Mechanical and Civil Engineering (IOSR-JMCE)*, 7(3), 25-28.
- Baland, J. M., & Robinson, J. A. (1998). *A model of child labor*. Retrieved from <https://ideas.repec.org/p/fth/nodapa/206.html>
- Birech, P. (2013). *Factors affecting loan utilization amongst youth*. Nairobi, Kenya: Ascent Limited.
- Campbell, S. B. (2006). *Behavior problems in preschool children: Clinical and developmental issues*. New York, NY: Guilford.
- Central Bank of Kenya. (2015). *Central Bank of Kenya 2015 annual report*. Nairobi, Kenya: Author.
- Central Bank of Kenya., Kenya National Bureau of Statistics., & Financial Sector Deepening Kenya. (2019). *2019 FinAccess household survey*. Nairobi, Kenya: Financial Sector Deepening Kenya.
- Central Bank of Kenya., Kenya National Bureau of Statistics., & Financial Sector Deepening Kenya. (2016). *2016 FinAccess household survey*. Nairobi, Kenya: Financial Sector Deepening Kenya.
- Chandran, E. (2004). *Research methods: A quantitative approach with illustrations from Christian ministries*. Nairobi, Kenya: Daystar University.
- Chen, G., & Mazer, R. (2016). *Instant, automated, remote: The key attributes of digital credit*. Retrieved from <https://www.cgap.org/blog/instant-automated-remote-key-attributes-digital-credit>

- Cheston, S., & Kuhn, L. (2002). *Empowering youth through micro finance innovations for the poorest families*. Bloomfield, CT. Kumarian Press.
- Cohen, M., & Nelson, C. (2011). *Financial literacy: A step for clients towards financial inclusion*. Retrieved from <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.466.2029&rep=rep1&type=pdf>
- Commission for University Education. (2017). *University education, shifting the dial: 5-year productivity review* (Supporting Paper No. 7). Canberra, Australia: Author.
- Demirgüç-Kunt, A., & Levine, R. (2009). Finance and inequality: Theory and evidence. *Annual Review of Financial Economics*, 1(1), 287-318.
- Federal Reserve Board. (2016). *Report on the economic well-being of US households in 2015*. Washington, DC: Author.
- Financial Sector Deepening Africa. (2017). *Financing the frontier: Inclusive financial sector development in fragility-affected states in Africa*. Nairobi, Kenya: Author.
- Fiserv. (2016). *Mobile banking adoption: Where is the revenue for financial institutions?* Brookfield, WI: Author.
- George, G. E., & Ouma, R. M. B. O. (2013). Adoption of technological innovations on organizational performance: Case of commercial banks in Kenya. *Research Journal of Finance and Accounting*, 4(3), 86-95.
- GSMA. (2015b). *2015 State of the industry report: Mobile Money*. London, UK: Author.
- Hermes, N., & Lensink, R. (2004). Foreign bank presence, domestic bank performance and financial development. *Journal of Emerging Market Finance*, 3(2), 207-229.
- International Labour Organization. (2013). *Studies on growth with Equity. Kenya: Making quality employment the driver of development*. Geneva, Switzerland: Author.
- Kariuki, M. I. (2018). *Effect of debt literacy on the indebtedness of formal sector employees in Kenya* (Unpublished doctoral dissertation). Jomo Kenyatta University of Agriculture and Technology, Kiambu, Kenya.
- Kathuo, S., Rotich, G., & Anyango, W. (2015). Effect of mobile banking on the financial performance of banking institutions in Kenya. *The Strategic Journal of Business and Change Management*, 2(98), 1440-1457.
- Khatun, M. (2018). Effect of financial literacy and parental socialization on students' savings behavior of Bangladesh. *International Journal of Scientific and Research Publications*, 8(12), 296-305.
- Kothari, C. R. (2004). *Research methodology: Methods and techniques* (2nd ed.). New Delhi, India: New Age International.
- Kyeyune, R., Mayoka, K. G., & Miro, E. (2012). ICT Infrastructure, mobile money systems and customer satisfaction in Uganda. *International Scientific Research Journal*, 1(1), 19-26.
- Lusardi, A., & Tufano, P. (2015). Debt literacy, financial experiences, and over indebtedness. *Journal of Pension Economics and Finance*, 14(4), 332-368.
- Lyman, T., Ivatury, G., & Staschen, S. (2006). Use of agents in branchless banking for the poor: Rewards, risks, and regulation. *Focus note*, 38.
- Makena, J. M. (2018). *The regulation of digital credit in Kenya: The case for consumer protection*. Retrieved from <https://suplus.strathmore.edu/bitstream/handle/11071/5885/The%20Regulation%20of%20digital%20credit%20in%20Kenya%20The%20Case%20for%20consumer%20protection.pdf?sequence=1&isAllowed=y>
- Medoff-Cooper, B., McGrath, J. M., & Shults, J. (2002). Feeding patterns of full-term and preterm infants at forty weeks postconceptional age. *Journal of Developmental & Behavioral Pediatrics*, 23(4), 231-236.

- Menear, K. A., Adcock, C., Boulter, R., Cockcroft, X. L., Copsey, L., Cranston, A., ... Martin, N. (2008). 4-[3-(4-cyclopropanecarbonylpiperazine-1-carbonyl)-4-fluorobenzyl]-2 H-phthalazin-1-one: a novel bioavailable inhibitor of poly (ADP-ribose) polymerase-1. *Journal of Medicinal Chemistry*, 51(20), 6581-6591.
- Midika, A. M. (2016). *The effect of digital finance on financial inclusion in the banking industry in Kenya* (Unpublished master's thesis). University of Nairobi, Nairobi, Kenya.
- Mitchell, W. J. (1990). *The logic of architecture: Design, computation, and cognition*. Cambridge, MA: MIT.
- Monyoncho, L. N. (2015). Relationship between Banking Technologies and Financial Performance of Commercial Banks in Kenya. *International Journal of Economics, Commerce and Management*, 3(11), 784 -815
- Musha, T. B. (2014). *Factors influencing uptake of credit by Kenyan youth in Nairobi County* (Unpublished master's thesis). Nairobi University, Nairobi, Kenya.
- Mwaniki, C. (2014). *Middle class Kenyans gives priority to phones, tablets and clothes*. The Business Daily, 15
- Narajabad, B. N. (2012). Information technology and the rise of household bankruptcy. *Review of Economic Dynamics*, 15(4), 526-550.
- Ngugi, B. R., Amanja, D., & Maana, I. (2016). *Capital market, financial deepening and economic growth in Kenya*. Retrieved from <http://repository.seku.ac.ke/handle/123456789/2669?show=full>
- Nyangosi, R., Arora, J. S., & Singh, S. (2009). The evolution of e-banking: a study of Indian and Kenyan technology awareness. *International Journal of Electronic Finance*, 3(2), 149-165.
- Parada, M., & Bull, G. (2014). *In the fast lane: Innovations in digital finance*. Washington, DC: International Finance Corporation.
- Piketty, T. (1997). The dynamics of wealth distribution and the interest rate with credit rationing. *The Review of Economic Studies*, 64(2), 173-189.
- Piketty, T. (2000). Voting as communicating. *The Review of Economic Studies*, 67(1), 169-191.
- Rogers, E. M. (1995). *Diffusion of innovations* (4th ed.). New York, NY: Free Press.
- Rothschild, M., & Stiglitz, J. E. (1976). Increasing risk: A definition. *Journal of Economic Theory*, 2(1970), 225-243.
- Sánchez, P. A. (2012). Escuelas eficaces e inclusivas: Cómo favorecer su desarrollo. *Educatio Siglo XXI*, 30(1), 25-44.
- Vaidya, A., & Roy, D. (2018). Banks are donning new structures. *The Business & Management Review*, 9(4), 488-492.
- Volpe, R. P., Chen, H., & Liu, S. (2006). An analysis of the importance of personal finance topics and the level of knowledge possessed by working adults. *Financial Services Review*, 15(1), 81-98.
- Wanja, M. L. (2016). *Automated banking services, service quality and customer loyalty in Kenya* (Unpublished master's thesis). University of Nairobi, Nairobi, Kenya.
- Yunus, M. (2008). *Un mondo senza povertà*. Milan, Italy: Feltrinelli Editore.
- Zikmund, G., Babin, B. J., Carr, J. C., & Griffin, M. (2010). *Business research method* (8th ed.). Mason, OH: South-Western Cengage Learning.