

---

**Electronic Theses and Dissertations**

---

2020

# Influence of credit information sharing on customer borrowing behaviour in Kenyan Commercial Banks: a case of HFC Bank digital lending.

Muturi, Rose Wanjiku  
*Strathmore Business School*  
*Strathmore University*

## **Recommended Citation**

Muturi, R. W. (2020). *Influence of credit information sharing on customer borrowing behaviour in Kenyan Commercial Banks: A case of HFC Bank digital lending*. [Thesis, Strathmore University].

<http://hdl.handle.net/11071/10440>

Follow this and additional works at: <http://hdl.handle.net/11071/10440>

**INFLUENCE OF CREDIT INFORMATION SHARING ON CUSTOMER  
BORROWING BEHAVIOUR IN KENYAN COMMERCIAL BANKS: A CASE OF  
HFC BANK DIGITAL LENDING**



**A DISSERTATION SUBMITTED IN PARTIAL FULFILMENT OF THE  
REQUIREMENTS FOR THE AWARD OF DEGREE OF MASTER OF BUSINESS  
ADMINISTRATION OF STRATHMORE UNIVERSITY BUSINESS SCHOOL**

**OCTOBER 2020**

**DECLARATION**

I, the undersigned, declare that this project is my original work and has not been submitted for examination in any other institution.

No part of this project may be reproduced without the permission of the author and Strathmore University Business School.

**Rose Wanjiku Muturi**

**MBA/11028/2018**

**Sign:** .....

**Date:** .....

**Approval**

This research project has been submitted for examination with my approval as the university supervisor.

**Dr. Elizabeth Muthuma**

**Lecturer**

**Strathmore University**



**Sign:** .....

**Date:** .....

## ABSTRACT

There has been an increase in the level of competitiveness within the Kenyan financial sector and from external players such as Financial Technology and Telecommunication firms. This has led to increasing technological innovation in the banking industry, which has resulted in the development of digital product provision. Currently, HFC Bank runs the HFC Whizz app, which is a digital lending platform. With more clients on the platform, the bank has been leveraging on credit information sharing to enhance the repayment performance. However, there has been limited examination of how credit information sharing influences the borrowing behaviour on the platform. The current study examined how credit information sharing influences borrowing behaviour among digital customers. This study specifically examined how demographic information, character information, and repayment information sharing influence borrowing behaviour. This study was anchored on the information asymmetry theory. A descriptive research design was applied on a population of 58,000 active customers on the platform and 5-senior managers of the HFC Whizz platform. The sample size for the study was 397 respondents. The study utilized primary data using a structured questionnaire, with a pre-test of the research instrument conducted on 39 of the sample respondents. Data analysis involved content analysis, descriptive analysis, and inferential analysis. The collected research data was analyzed using charts, tables, and themes in line with the study objectives. A 64% response rate was received from 397 participants. The study concludes that credit information sharing has a significant relationship with the borrowing behaviour of digital borrowers. The study finds that demographic information sharing and repayment history sharing had a positive and significant effect on borrowing behaviour. The research concludes that character information sharing has an insignificant effect on borrowing behaviour, yet it is data shared among lenders. The study recommends that commercial banks and the central bank should sensitize the public on the type of information shared as this will help in improving their credit scores, ability to negotiate for better credit terms and reduced reliance on collateral.

**Keywords:** *Demographic Information, Character Information, Repayment Information Sharing, Borrowing Behaviour*

## TABLE OF CONTENTS

<b>DECLARATION</b> .....	<b>ii</b>
<b>ABSTRACT</b> .....	<b>iii</b>
<b>LIST OF TABLES</b> .....	<b>viii</b>
<b>LIST OF FIGURES</b> .....	<b>ix</b>
<b>ABBREVIATIONS AND ACRONYMS</b> .....	<b>x</b>
<b>DEFINITION OF TERMS</b> .....	<b>xi</b>
<b>CHAPTER ONE</b> .....	<b>1</b>
<b>INTRODUCTION</b> .....	<b>1</b>
1.1 Background to the Study.....	1
1.1.1 Credit Information Sharing .....	2
1.1.2 HFC Whizz App Platform .....	6
Customer Borrowing Behavior .....	7
1.2 Statement of the Problem.....	7
1.3 Objective of the Study .....	9
1.3.1 Specific Objectives .....	9
1.4 Research Questions.....	9
1.5 Scope of the Study .....	10
<b>CHAPTER TWO</b> .....	<b>11</b>
<b>LITERATURE REVIEW</b> .....	<b>11</b>
2.1 Introduction.....	11
2.2 Theoretical Review .....	11
2.2.1 Information Asymmetry Theory .....	11
2.3 Empirical Review.....	13
2.3.1 Borrowers Behaviour .....	13
2.3.2 Demographic Information Sharing and Borrowers Behaviour .....	14
2.3.3 Character Information Sharing and Borrowers Behaviour .....	16

2.3.4 Repayment History Sharing and Borrowers Behaviour.....	18
2.4 Summary of Literature and Research Gaps .....	20
2.5 Conceptual Framework.....	21
<b>CHAPTER THREE .....</b>	<b>24</b>
<b>RESEARCH METHODOLOGY .....</b>	<b>24</b>
3.1 Introduction.....	24
3.2 Research Philosophy.....	24
3.2.1 Research Design.....	24
3.3 Population and Sampling .....	25
3.3.1 Target Population.....	25
3.3.2 Sampling Design and Sample Size .....	25
3.4 Data Collection Instruments .....	26
3.5 Data Collection Procedures.....	26
3.6 Research Quality.....	26
3.6.1 Reliability Tests of Research Instruments .....	26
3.6.2 Validity Tests of Research Instruments .....	27
3.7 Data Analysis and Presentation .....	27
3.8 Ethical Considerations .....	28
<b>CHAPTER FOUR.....</b>	<b>29</b>
<b>PRESENTATION OF RESEARCH FINDINGS.....</b>	<b>29</b>
4.1 Introduction.....	29
4.2 Response Rate.....	29
4.3 Demographic Profile of Respondents .....	29
4.3.1 Length of Borrowing on the Platform.....	30
4.4 Descriptive Analysis .....	31
4.4.1 Demographic Information Sharing .....	31
4.4.2 Character Information Sharing .....	32

4.4.3 Repayment History Sharing .....	32
4.4.4 Borrowing Behaviour.....	33
4.5 Correlation Analysis .....	34
4.6 ANOVA Analysis .....	35
4.7 Diagnostics Tests .....	36
4.7.1 Collinearity Tests .....	36
4.7.2 Normality Tests.....	37
4.7.3 Autocorrelation Tests.....	37
4.8 Regression Analysis.....	38
<b>CHAPTER FIVE .....</b>	<b>40</b>
<b>DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS .....</b>	<b>40</b>
5.1 Introduction.....	40
5.2 Summary .....	40
5.3 Discussions .....	40
5.3.1 Demographic Information Sharing .....	40
5.3.2 Character Information Sharing .....	41
5.3.3 Repayment History Sharing.....	42
5.4 Conclusions.....	42
5.5 Recommendations.....	42
5.5.1 Policy Recommendations.....	42
5.5.2 Managerial Recommendations.....	43
5.5.3 Scholarly Recommendations .....	43
5.6 Suggestions for Further Research .....	43
<b>REFERENCES.....</b>	<b>44</b>
<b>APPENDICES .....</b>	<b>50</b>
Appendix I: Questionnaire .....	50
Appendix II: Interview Schedule .....	53

Appendix III: NACOSTI License .....55  
Appendix IV: Ethics Review Letter .....56



## LIST OF TABLES

Table 2.1 Research Gaps.....	20
Table 2.2 Operationalization of Variables .....	23
Table 3.1 Reliability Statistics .....	27
Table 4.1 Demographic Information.....	29
Table 4.2 Results for Demographic Information Sharing.....	31
Table 4.3 Results for Character Information Sharing.....	32
Table 4.4 Results for Repayment History Sharing .....	33
Table 4.5 Results for Borrowing Behaviour.....	33
Table 4.6 Results for Correlation Analysis.....	34
Table 4.7 ANOVA between Demographic Information Sharing and Borrowing Behaviour .....	35
Table 4.8 ANOVA between Character Information Sharing and Borrowing Behaviour....	35
Table 4.9 ANOVA between Repayment History Sharing and Borrowing Behaviour .....	36
Table 4.10 Collinearity Results.....	36
Table 4.11 Autocorrelation Results .....	37
Table 4.12 Regression Summary .....	38
Table 4.13 ANOVA Summary .....	38
Table 4.14 Regression Coefficients .....	39

## LIST OF FIGURES

Figure 2.1 Conceptual Framework .....	23
Figure 4.1 Length of Borrowing .....	31
Figure 4.2 Normality P-P Plot .....	37

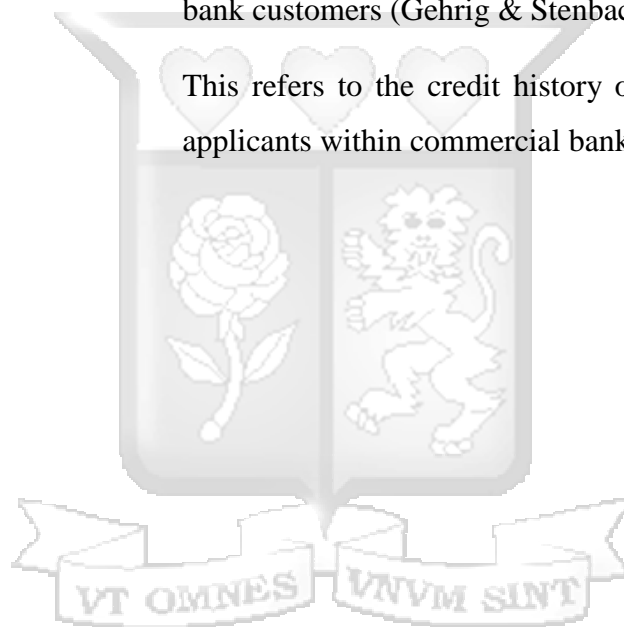


## **ABBREVIATIONS AND ACRONYMS**

<b>ANOVA</b>	Analysis of Variance
<b>CBK</b>	Central Bank of Kenya
<b>CIS</b>	Credit Information Sharing
<b>CRB</b>	Credit Reference Bureau
<b>HFC</b>	Housing Finance Group formerly known as HFCK
<b>IFC</b>	International Finance Corporation
<b>KCISI</b>	Kenya Credit Information Sharing Initiative
<b>MFI</b>	Microfinance Institutions
<b>NACOSTI</b>	National Commission for Science Technology and Innovation
<b>SBS</b>	Strathmore Business School
<b>SME</b>	Small and Medium Enterprises
<b>SPSS</b>	Statistical Package for Social Sciences
<b>VIF</b>	Variance Inflation Factor

## DEFINITION OF TERMS

- Credit Information Sharing** This refers to the various mechanisms by which banks and other credit providers make information about their borrowers available to other lenders (Brown, Jappelli, & Pagano, 2009).
- Character Information** This refers to the personal attitudes, reputation, education beliefs, knowledge, and skills of customers shared in CRB reports (Gaitho, 2013).
- Demographic Information** This refers to the shared information on age, gender, income level, marital status, religion, and the sex of the bank customers (Gehrig & Stenbacka, 2007).
- Repayment History** This refers to the credit history of applicants for loan applicants within commercial banks (Leboo, 2013 ).



## CHAPTER ONE

### INTRODUCTION

This chapter presents the background of the study, providing details about credit information sharing and the HF Whizz platform. It further presented the statement of the problem, research objectives and questions, the study scope and then concluded with the significance of the study.

#### 1.1 Background to the Study

In the past, credit was issued on the basis of acquaintanceship, and in the 1970s, banks issued loans via face-to-face application. It involved the borrower proving to the creditor that he/she has the capacity to pay off a certain amount of credit (Cavelaars & Passenier, 2012). Over time, credit reference bureaus developed, allowing financial institutions to access client borrowing information without having any previous relationship (Houston, Lin, Lin & Ma, 2010). The past decade has seen tremendous competition within the financial industry, signified by the growth in the banking industry in many developing countries like Kenya. Despite this growth, many banks have continued to be plagued by problems arising from poor quality credit. This has led to the rise in the cost of credit in the form of higher interest rates charged by banks (Kiage, Musyoka, & Willy, 2015). According to the Kenya Credit Information Sharing Initiative (KCISI) (2013), when there is no credit information sharing, lenders mistake reasonable risks for bad ones and vice versa. This leaves banks with risky loan portfolios forcing interest rates to rise over time.

Asymmetric information is the disbalance in access to knowledge regarding one party in a financial transaction and in the market, it has the potential to undermine the allocation of credit to potential borrowers while at the same time affecting the performance of financial institutions that rely on interest earned for sustainability (Hahm & Lee, 2011). The most basic information required by a loan's manager relates to the ability of the borrower to repay the funds issued. In the absence of such information, financial institutions are forced to use expensive investigations to gather data, which in some instances may turn out incorrect (Olando, Jagongo, & Mbewa, 2013).

Through credit information sharing, lenders of finance can access reports relating to the past credit history of the borrower and the repayment patterns (Jappelli & Pagano, 2018). Credit information sharing is beneficial to the lender and the borrower. The borrower can differentiate themselves as opposed to being labelled a defaulter owing to other people's track record (Kioko, 2014). It provides them with the ability to negotiate interest rates and credit terms. Further,

they are subjected to less paperwork and thus fast loan processing (Hahm & Lee, 2011). Researchers in the past have acknowledged that credit information sharing is critical, especially in a market where information asymmetry is high. Such a situation could easily lead to adverse selection, which could lead to losses for the less informed party (Okumu, 2015).

A Price Water Coopers (2015) reported that despite the credit risk measures taken to control NPLs, South African banks still reported that NPLs stood at 39% in 2014. It was also reported that Ethiopian banks hold excess provision to cater for unexpected risks as a form of credit risk management and this has resulted in the quality of assets being affected negatively. The researcher further notes that this loan provision sometimes triples the general provision requirement for healthy loans (Diro & Regasa, 2014). The perceived importance of credit information sharing schemes to banks in developing economies, especially Africa, cannot be overemphasized (Dankwah, 2012). Despite the main source of income for most banks being the traditional activity of lending, banks in developing economies are reluctant to grant more credits, which may cause decreases in their profitability (Büyükkarabacak & Valev, 2012). This is partly because unlike their developed counterparts; these economies are characterized by weak legal and judicial systems (Brown, Jappelli, & Pagano, 2009), inadequate transparency in corporate reporting and weak creditor rights which may increase the tendency of defaults on the loan demand side of their balance sheets/ statement of financial position.

These credit risk issues have also plagued the Kenyan banking industry despite efforts aimed to protect banks such as enactment of laws on credit information sharing and introduction of the Credit Reference Bureaus (Okumu, 2015). Munene (2012) analyzed the impact credit reference bureaus have in enhancing access to finance by SMEs in Tanzania. The study established that credit bureaus could relieve a firm from bankrolling limitations by providing data on entities that are borrowing and their repayment history. It assisted the creditors to assess creditworthiness, the ability to pay back a loan, and this affects the interest rate and other terms of a loan. Kiage, Musyoka, and Willy (2015) found that information sharing mitigates the risk that borrowers were over-leveraged, which lowers the risk that they will default finances owed by them. It means that the cost related to managing loans by the banks is significantly reduced and thus improving their profitability.

### **1.1.1 Credit Information Sharing**

Credit information sharing (CIS) occurs when lenders exchange information on the credit performance of their customers through a platform of Credit Reference Bureaus. Data or

sharing of information is the principle of lenders agreeing to share mandated or multiple aspects of their client repayment and identification information together for the benefit of reducing risk and lending more efficiently (Beck, 2011). Sinare (2008) asserts that CRB is those institutions that collect and share data on repayment habits and the current debt of their debtors. This is compiled into a report which is made available to the credit providers.

Credit information sharing is essential to the future of developing economies since it allows lenders to overcome challenges associated with lack of access to information about a borrower's profile. In an investigation on the relationship between interest rate and credit risk among Kenyan commercial banks, it was reported that in the 1980s and 1990s, numerous individuals borrowed money from multiple financial institutions with the intention to default these loans. Their activities thrived in an environment which lacked appropriate information sharing policies between financial institutions at the time and pronounced losses for lenders who were victims (Githigia, 2014). The risk arising from a borrower having more knowledge about the risk associated with a particular investment than the lender is known as adverse selection. Having this knowledge enables financial institutions to carry out their own investigation, enabling them to distinguish between good and bad debts hence avoiding serial defaulters.

Another problem that was presenting itself was the lack of collateral to push the borrower to repay their debt. This is referred to as a moral hazard, and it has been blamed for increasing rates of default. The lack of oversight from the lender creates an opening for a borrower to take advantage of the lender and overstate their capacity to repay. Some borrowers may even indulge in risky business in an attempt to get higher returns at the expense of the borrower. Credit information sharing limits these instances as it enables the lender to determine the credit worthiness of the borrower (Nasieku & Ngugi, 2016).

According to CBK (2015), a credit information sharing mechanism is beneficial to borrowers, lenders, and the economy. To lenders, credit information sharing reduces information asymmetry between lenders and prospective borrowers, which empowers lenders in their assessment and determination of credit requests. Borrowers, on the other hand, could use their good credit histories to build information capital and negotiate favourable terms of credit, thereby lowering their borrowing costs and enhancing their borrowing capacity. To the economy at large, increased commercial lending boosts economic activity (Okumu, 2015).

Financial institutions in Kenya have a huge potential of contributing to inclusion through increased lending, which can only be backed by the use of credit reports. CIS was initiated in early 2010, with banks submitting credit information to CRB August 2010. There has been notable progress so far, with over 2,036,634 records having been accessed by Sep 2013 (CBK, 2013). Information asymmetry between participants in the credit market has been a challenge that fuels the cost of credit and led to the deterrence of other players from accessing credit (CBK, 2014).

This state leads to adverse selection and exposure of credit providers to moral hazards, which in the long run, results in rationing of credit. CIS drastically reduces adverse selection cases by availing the credit profile of the borrowers, enhancing the banks' allocation of credit efficiently through improved credit risk assessment (Warue, 2015). Bennardo, Pagano, and Piccolo (2010) note that credit reference bureaus largely share credit history, personal information, and repayment performance. Gehrig and Stenbacka (2007) indicate that CIS is concerned with sharing personal information, borrowers' character information, and their repayment history.

CRB Regulations, 2013, state that the shared information includes customer's identity such as date of birth, national identity number, current address phone numbers, and any other contact details; the customer's credit status such as the nature and amounts of loans or advances and any other facilities granted, such as guarantees and letters of credit and status of credit applications (Opiyo, 2016). The credit history of an individual may either be negative or positive. This information includes the number of performing loans, performing loans with default history, and NPLs. They also indicate the number of inquiries made, any write-off that has been required, loan repayment patterns, and would also assist in identification of individuals indicted with forgery or fraud and those with proven cases of misappropriation of funds (Metropol CRB, 2018).

Bennardo, Pagano, and Piccolo (2014) indicate that the cost of borrowing, the repayment period, and the knowledge of the lending terms influenced the borrowing behaviour among borrowers. Hoque, Sultana, and Thalil (2017) indicate that the income level, repayment history, credit terms, and conditions, as well as their character information, influenced borrowing Behaviour among small business owners. Jagongo and Kerage (2015) note that the availability of the borrower's demographic information, income level, and previous loan repayment was key to determining lending within Kenyan institutions. Murimi (2017) concluded that the availability of borrowers' information, risk profile, and repayment conditions determined

access to credit among borrowers. This study sought to establish the influence of demographic information, character information, and repayment history on the borrowers' Behaviour among digital lenders in HFC bank.

Digital credit involves the use of data trails created by consumers of financial services. The use of this type of data for financial services is still early in development and as a result, is associated with risks, whose impacts have not yet been understood by the clients, industry players and policy makers. This has been noted with the lack of appropriate regulation and supervision frameworks, especially in developing economies (Mitheu, 2018). From the customer's perspective, low levels of financial literacy, negative perceptions, limited financial training and socio-demographic factors are sources of risks. The lack of proper regulations endangers the borrower and the financial institution in a variety of ways. Issues arising from lack of end-to-end encryption has led to negative public perception of digital lending services, and leads to security concerns. Additionally, financial institutions operating without proper oversight tend to fail to properly inform their prospective customers certain aspects of the loan terms. Some insert hidden clauses where they charge high penalties for default (Nasieku & Ngugi, 2016). These aspects of digital lending significantly impact customer perception about the lending platforms. Due to its dependence on previous client information, digital lending also uses customer reputation as collateral. The lack of a more valuable collateral creates little motivation for the customer to repay loans, this has negative impacts on small-loan performance.

Knowledge about the client's characteristics enhances the possibility of a financial institution lending to the right borrowers. The demographics are in terms of gender, income, household size, marital status, age, employment status, and business ownership (Muthoni, 2014). The demographic information of the borrower is key to determining the level of lending, the interest rates to charge, and the duration of the loan (Gaitho, 2013). In this study, this information will be key in determining the extent to which sharing the client's characteristics influence their loan borrowing behavior.

Information on loan repayment history of a client can be used to make predictions about an individual's future payment behaviour. Facilitating access to information in the credit bureau assisted in minimalizing the rate of default. Non-performing loans and provision for bad loans also signal repayment behaviour (Craig, Sadoulet, & Janvry, 2006). Hahm and Lee (2011)

indicate that the availability of previous loan payment is an indicator of the creditworthiness of borrowers. However, lack of adequate information leads to banks' charging a flat rate among all customers regardless of their capacity to repay loans or their previous loan repayment performance (Jagongo & Kerage, 2015). This study seeks to determine the influence of sharing a client's repayment history on their loan borrowing behavior.

Powell, Mylenko, Miller, and Majnoni (2004) show that sharing character information provides borrowers with reputation collateral, which in some instances is more valuable than physical collateral by surveyed lenders. In this regard, Powell et al. argue that the data shared from credit bureaus is a significant predictor of repayment possibilities with character information providing more insights on the personal character of the borrower. Jappelli and Pagano (2018) found out that the honesty, reputation of borrowers among other lenders, their knowledge, and experience are key determinants of positive credit rating, which can enhance their access to credit. The client's reputation is a source of personal pride and as such it is key in determining the effect of sharing a client's character on their borrowing behavior.

### **1.1.2 HFC Whizz App Platform**

Commercial banks in Kenya are faced by increasing pressure and competitiveness in the provision of financial services from telecommunication firms and FinTech that are sprouting in the market at an unprecedented pace (Misati, Kamau, Kipyegon, & Wandaka, 2016). Financial institutions in the region have embraced emerging technologies in a bid to gain a competitive edge. To solidify its position in the market, HFC Bank rolled out the HF Whizz App, which is one-stop digital banking platform. The bank management identified credit as a means of forming strong customer relationships and the platform is a response aimed at increasing access and improving customer relationships. Through digital platforms, users are able to open bank accounts, make deposits, access loans and other transactions without physically accessing the banking premises (Okodo, 2019). This seamless access has provided vital growth opportunities to the bank; however, it has also been presented a challenge in loan repayment in several customers (HF Group, 2018). Through the utilization of credit information sharing, the bank has been able to adopt better screening and credit scoring practices (Kiage, Musyoka, & Willy, 2015). This study sought to establish from the customer perspective how the credit information sharing affects the borrowing behaviour. This helps in contributing to future product review and managerial practices.

## **Customer Borrowing Behavior**

The ability of a financial institution to manage its credit risk portfolio determines its long-term sustainability, and Kotler (2003), notes that growth and expansion within these firms is dependent on its ability to make well-informed credit decisions. A customer's borrowing behavior refers to the customer's rate of borrowing and repaying loans. Credit risk management involves acquisition of specific information about potential creditors, their profiles and patterns of repayment. Hence, understanding customer borrowing behavior is key in effective management of financial risks among banks.

Customers exist in an environment which shape their personality, lifestyles and attitudes. Socio-economic factors within the environment determine the borrowing behavior of a particular population, and can be useful in predicting a client's capacity and inclination to repay loans. Social relations and responsibilities are indicators of a borrower's relationship with financial institutions (Ugbomeh, Achoja, Ideh, & Ofuoku, 2008). Further, borrowing behavior is determined by access to the loan facilities and services. A borrower's willingness to repay loans is a product of the legal environment in which they, and the lending institution exist. It was noted that with the introduction of penalties for default, in the form of defaulter's blacklisting in credit reference bureaus, the rate of default reduced (Johnson, Badger, Waltermire, Snyder, & Skorupka, 2016). There are several factors that determine a borrower's repayment behavior, and Makori, (2017), in his study on socio-economic factors that affect loan repayment reported that the nature of contracts also determine a client's borrowing and repayment behavior (Makori, 2017). Appropriate information sharing before, during and after that acquisition of the loan a significant factor that affects a client's borrowing behavior. Further, access to loan facilities has been noted to influence borrowing behavior, with increased access leading to more borrowing. Access to information about a client's borrowing behavior is important to financial institutions since provides the lender with a brief history of the clients' previous interactions with loan facilities and this can be used to predict their future tendencies towards similar loans.

### **1.2 Statement of the Problem**

Success in the financial industry is key for economic development and financial inclusion is one of the strategies aimed at ensuring enhanced access to financial systems. One of the deterrents of financial access is the performance of loans, which determines the financial health of a population. Poor loan performance necessitated the institution of Credit Reference Bureaus which function to provide critical information about a borrower to the lender. These institutions

were formed to functions as agents of limiting information asymmetry between financial institutions (Gaitho, 2013). The systematic application of credit data in the assessment of loans and appraisal are remarkable developments in retail and corporate banking in the financial industry as a whole (Hahm & Lee, 2011). Currently, loan appraisal and assessment take a shorter time as compared to previous times thanks to advances in technology, which enables the generation of credit reports on the applicant's status on compliance with credit terms and conditions (Kiage, Musyoka, & Willy, 2015). Financial institutions have further leveraged in the development of technologies to rollout digital banking platforms that have opened the banking industry to a larger market (Okumu, 2015). Commercial banks such as HFC bank, NCBA, KCB, and Equity have been at the forefront of offering loans through digital platforms. Despite HFC Bank being among the large banks that have leveraged on available CIS platforms to guide credit facilities, the institution has faced challenges in mitigating information asymmetry among borrowers. Furthermore, with the vast resources utilized in creating awareness on CIS, it is apparent that many of the digital borrowers within the bank are not acquainted with the service hence need for further analysis. This minimal examination and knowledge of how credit information sharing within digital lending platforms affects borrower's behaviour motivated this research to fill the knowledge gap.

According to CBK (2014), the ratio of gross NPL to gross loans stood at 5.6% in December 2016, up from 5.2% in December 2013. Similarly, in 2015 an increase from 101.7b to 123.9 b representing 22%, was reported. This increase has been experienced despite the presence of credit reference bureaus in the country, which were introduced to enable credit information sharing on borrowers so that this could help cap the growth of non-performing loans (CBK, 2015). CBK (2018) reports that as of 2018, there were 33 million credit report applications by commercial banks. The report further noted a 14% increase in request for reports by individual customers in 2018. This indicates there is a growth in the appetite for credit sharing information to be utilized in assessing creditworthiness. The study indicated that despite growth in credit information sharing, there are still major challenges resulting from low uptake of credit scores by banks, insufficient data, and negative public perception. This indicated there is a need for further review on the utilization of CIS within digital lending platforms as there is evidence of an increase in the level of NPLs in Kenyan banks.

There are several empirical studies focussing on examining the credit information sharing within commercial banks. Rona-Tas and Guseva (2013) examined Information and consumer credit in Europe, concluding that collateral, collection, screening, and borrower data sharing

affected the individual decision making on accessing credit. Tchamyou and Asongu (2017) studied information sharing and financial sector development in Africa. They found that a lack of adequate information sharing limited non-formal financial development and credit coverage. Kisengese (2014) studied the impact of credit information sharing on the level of NPLs in Kenya and found that CIS helped banks to reduce chronic defaulters in their loan book and contributed to low default rates.

Jagongo and Kerage (2015) indicate that demographic information, loan repayment, and terms and conditions determine the access to credit. Kisengese (2014) indicates that the availability of repayment history and character information affects loan repayment within commercial banks. Ong'era (2016) notes that credit terms, repayment conditions and demographic information of commercial banks influence the loan performance of commercial banks. The above studies have, however, not examined the effect of credit information sharing on borrower behaviour within digital lending platforms which was the context of this study; hence there was a need to fill the empirical gap. Since borrower behavior determines their potential to repay their loans, this study seeks to determine the effect of credit information sharing on the borrowing behavior within digital lending platforms.

### **1.3 Objective of the Study**

The main objective was examining the influence of credit information sharing on the borrowing behaviour in HFC bank digital lending customers.

#### **1.3.1 Specific Objectives**

- i. To examine the effect of demographic information sharing on the borrowing behaviour of HFC Bank digital lending customers.
- ii. To determine the effect of character information sharing on the borrowing behaviour of HFC Bank digital lending customers.
- iii. To examine the effect of repayment history sharing on the borrowing behaviour of HFC Bank digital lending customers.

### **1.4 Research Questions**

- i. What is the effect of demographic information sharing on the borrowing behaviour of HFC Bank digital customers?
- ii. What is the effect of character information sharing on the borrowing behaviour of HFC Bank digital lending customers?

- iii. What is the effect of repayment history sharing on the borrowing behaviour of HFC Bank digital lending customers?

### **1.5 Scope of the Study**

The geographical scope of the study focused on the HFC Bank borrowers on the HFC Whizz banking app. The contextual scope of the study examined the influence of demographic information, character information, and repayment history on the borrower's behaviour. The theoretical scope of the study focused on the information asymmetry theory. The methodological scope of the study was based on a quantitative approach, anchored on a descriptive research design with a population scope of over 58,000 customers who are active on the HFC Whizz app and 5-senior managers within the Whizz app. The study conducted a snapshot review among HFC digital customers for the period of March 2020.

### **1.6 Significance of the Study**

This study will be important to various parties by identifying the importance of credit information sharing on loan performance and its effects on borrowing behavior.

#### **1.6.1 To Banks and Bank Management**

The results were of importance to the management of commercial banks in making decisions on the borrowing behaviour based on the information shared across the commercial bank industry. They would help the management to develop strategies that would see them targeting good debts and avoiding bad debt and this would provide key information on policy making by Credit Reference Bureaus and the Central Bank. Further, the findings will help to highlight the various gaps in the credit information sharing that may affect the borrowing behaviour.

#### **1.6.2 To policy makers**

The study is anticipated to foster the available policy-evidence and enhance both policy and managerial aspects within the banking sector. The findings could be key in enhancing the existing banking regulations that govern the Credit Reference Bureau.

#### **1.6.3 To Academicians**

The findings are further expected to enhance the available empirical knowledge on the association between credit information sharing and borrowing behaviour within commercial banks.

## CHAPTER TWO

### LITERATURE REVIEW

#### 2.1 Introduction

This chapter focuses on the review of the various aspects of the review of related literature to the research constructs. The chapter presented a review of the theories guiding the research work, the empirical review, the various research gaps, and the conceptual framework identifying the link between the study variables.

#### 2.2 Theoretical Review

Theories are formulated with the aim of explaining and understanding phenomena, predicting future occurrences as well as challenging the knowledge that is already existing within a certain set of assumptions (Austin & Sutton, 2014). The theoretical framework comes in as a structure to support the theory under the research study. It provides a critical evaluation of works that have been done on the problem that the research is trying to resolve (Cooper & Schindler, 2008). The study was grounded on the information asymmetry theory.

##### 2.2.1 Information Asymmetry Theory

The theory of information asymmetry dates back to Freimer and Gordon (1965) but was expounded by Stiglitz and Weiss (1981). The theory postulates that in any transaction involving two parties, one of the parties has superior or more information than the other. This gives the party with superior information advantage over the counterparty leading to problems of adverse selection and moral hazard (Gehrig & Stenbacka, 2007).

Stiglitz and Weiss (1981) postulated that a lack of accurate and complete borrowers' information in making lending decisions might lead to adverse selection and moral hazard because of information asymmetry. They further pointed out that taking lending decisions by just focusing on interest and collateral is inadequate, since that may discourage safe borrowers and might encourage risky borrowers who can adversely affect bank performance. However, it was further argued that asymmetric information within the credit market could as well lead to over-lending or excess credit (De Meza & Webb, 1987).

Even though banks are considered as experts in gathering private information and diligent in screening and monitoring borrowers, there is a lack of efficiency in profiling borrowers, which leads to adverse selection problems (Powell, Mylenko, Miller, & Majnoni, 2004). The theoretical literature review suggests that the exchange of credit information between bankers

and firm (individuals) are not perfect. Thus, banks tend to ration credits in the financial market (Brown, Jappelli, & Pagano, 2009; Gehrig & Stenbacka, 2007).

Hansen and Keiding (2004) note that financial institutions have full information about their client's borrowing behaviours and creditworthiness; they would deny credit to clients with risky borrowing habits. However, most financial institutions lack access to such kind of information that would allow them to provide adequate protection against borrowings. Unless there are serious consequences for defaulting like the inability to get credit in the future, the borrower will always have a great incentive to default. Since the lenders do have enough information to accurately determine the borrower's ability to repay the debt on time, the lenders increase interest rates to forestall any default (Dankwah, 2012).

However, Stiglitz and Weiss (1981) argue that banks ration credits since they are unable to distinguish between good and bad borrowers; hence they charge a flat rate of interest since cost becomes persistent in selecting borrowers. In this regard, it is not always the case since, in real circumstances, high-risk borrowers are charged a high-interest rate, and as such, credit rationing is less likely to occur. Banks virtually become less efficient in allocating funds to customers or borrowers, leaving high non-performing loans sitting on their balance sheets. In an attempt to reduce these non-performing loans or reduce the credit risk, banks adopt various measures including bureaucratic processes and measures to ensure that adequate information about the customers/borrowers are gathered, and use credit information sharing schemes to provide banks with credit histories of potential customers which can help determine the borrowing and repayment patterns of customers.

Mituga (2011) held the position that Credit Reference Bureaus (CRBs) might be harnessed to address the problems of moral hazard and the adverse selection or mitigate their negative effects by facilitating the building of information capital and sharing it among lenders who will use it to make prudent lending decisions. A mechanism for exchanging credit information through CRBs will reduce lenders' information disadvantage, consequently allowing them to screen credit applicants and make an accurate prediction of repayment probabilities, thus minimizing adverse selection. In the same manner that financial institutions experience information asymmetry, borrowers face this inconvenience when accessing credit systems. The wide variety of applications offering lending services has a significant impact on borrowing behavior.

By having access to a client's demographic information, characteristics and previous borrowing behavior, lending institutions are able to assess the probability of encountering good or bad debtors. This is a risk mitigation strategy which when applied successfully will result in reduced default and creation of an incentive to repay bank loans. The theory addresses this by calling for efficient and adequate sharing of credit information among banking institutions, which can be pivotal in conducting credit assessment and scoring of potential customers. This theory was utilized in this study to understand how credit information sharing influences borrowing behaviour among digital borrowers.

## **2.3 Empirical Review**

### **2.3.1 Borrowers Behaviour**

Bank loans become non-performing when the borrower's financial health is compromised (Craig, Sadoulet, & Janvry, 2006). The International Finance Corporation (2011), noted that there were two ways of determining a borrower's financial health; the borrower's ability to pay, and borrower's willingness to pay. Distinguishing these cases is almost impossible. Kioko (2014) expressed that concern that poor financial literacy among borrowers contributed to poor decision making in accessing credit and in result contributed to poor attitude towards repayment. This negatively impacts loan performance within financial institutions.

Banks, often, are unaware of the past behaviours, features, and intentions of their loan customers. This causes banks to make their lending decisions based on common attributes rather than individual characteristics of their borrowers (Jagongo & Kerage, 2015) translating into low profits. It has been argued in extant literature that one of the ways banks can reduce such risk is through credit information sharing (Gaitho, 2013). Information sharing helps to predict future behaviour from past behaviour (Matthews & Thompson, 2008); it reduces adverse selection and facilitates the assessment of credit requests to reduce the risks of bad debts. It also helps overcome the problems of moral hazard by raising the efforts of borrowers to repay loans and thereby improving profits (Naceur & Omran, 2011).

Bennardo, Pagano, and Piccolo (2010), in their study on multiple lending, creditor rights and information sharing used an experimental model to assess factors contributing to a reduction in overborrowing. In their study, they found that information sharing mitigates the incentive to overborrow. This is because such systems would be set up to ensure that over-indebted borrowers receive less credit thus making the lenders avoid bad debts. They concluded that information sharing among banks about the client's historical indebtedness lowers interest and

default rate, improves access to credit, and may act as a substitute for creditor's rights protection.

Uoblas-Madrid and Minetti (2009), in their study on the impact of CIS on loan performance among Tanzanian banks applied a case study design on a sample of 50 respondents. Using simple random and purposive sampling, it was established that the level of non-performing loans had increased, despite lenders' access to CIS. However, minimal improvements on payment behaviour were noticed when the lender entered the institution of CIS (Marry, 2018). This implied that client's reaction to knowing there is a probability to be listed on the reference bureau positively impacted their repayment behavior. Such attitudes improve the borrower's repayment behavior hence improving their credit position in the credit referencing system. Removing negative scores from their histories is seen as a good indicator of the borrower's bargaining power and as a result, the study concludes that it is important to educate the public on the importance of leveraging on their credit scores to enhance their capability to acquire high value credit access. The study focussed on loan performance among Tanzanian banks while the current study focusses on loan performance within a digital lending platform.

Roslan and Zaini (2009), investigated factors determining microcredit repayment in Malaysia, specifically assessing how the characteristics of the borrowers and project characteristics and loan characteristics on their influence on loan repayment of agro bank micro-credit scheme. The study involved more than 2500 respondents across 86 Agrobanks in Malaysia. Borrowers characteristics included their gender, marital status, race, level of education, age, occupation, number of dependents, experience, membership in business society and training. The results indicated that repayment is not influenced by race, education, age, previous occupation, number of dependencies, experience, membership in the business society. Findings reported to a significant influence of borrower characteristics such as their sex, the business activity engaged in, level of financial knowledge acquisition, amount of loan and repayment period. Further, loan characteristics also influenced repayment behavior. Longer repayment period was linked to high rate of default (Roslan & Karim, 2009). The study applied probit and logit models in determining factors that influence microcredit repayment, while the current study employed descriptive statistics in its analysis.

### **2.3.2 Demographic Information Sharing and Borrowers Behaviour**

Bennardo, Pagano, and Piccolo (2014) examined multiple bank lending, creditor rights, and information sharing. An explanatory research design was selected. The study results show that

sharing bank information through credit information systems helps to mitigate overborrowing. This in turn reduces loan interest rates and default rates. The study notes that sharing demographic information helps to incentivize banks leading to credit rationing. The study did not focus on individual digital borrowers, which in the context of the current study.

Hu, Gu, and Zhou (2017) studied the role of comprehensive information sharing in the credit market within the European Union. The study relied on secondary data collected from the European Union banks to test the theoretical implications of the study. The findings indicate that comprehensive information sharing contributed positively to macro credit access as well as an increase in default risk. The study further indicates that improved sharing of personal information was correlated with increased borrowing among micro-borrowers. The study fails to examine the borrowing Behaviour among individual bank customers, which was the focus of this research.

Veluchamy and Arun (2017) investigated the credit repayment behaviour of borrowers among medium and small microenterprises in India. Focussing on the effect of demographic characteristics on the credit repayment a descriptive research design was used with a population of 474 firms being considered in the data collection. The study found no link between demographic characteristics of borrowers and credit repayment performance. The study did not examine how character information and repayment history affect small microenterprise firms. In contrast, the current study focuses on individual digital borrowers.

Fosu, Danso, Agyei-Boapeah, Ntim, and Adegbite (2019) conducted a review of credit information sharing and loan default in developing countries. The study reviewed 87 commercial banks globally for 9 years. The findings indicate that credit information sharing has significantly reduced default rates. The research notes that the effectiveness of credit information sharing in limiting the default rate is significantly influenced by the banking market concentration. The study fails to indicate if CIS impacts borrower behaviour, which is the focus of this study. Marry (2018) examined the impact of credit information sharing on loan performance of commercial banks in Tanzania. The study utilized a descriptive research approach and employed a quantitative analysis of research data. The findings indicate that the sharing of demographic information and repayment history enhances loan performance within commercial banks. The study sampled bank staff as respondents, while current research is concerned with understanding borrowers' perspective on how CIS influences their borrowing behaviour in Kenya.

Leboo (2013) studied the effect of demographic characteristics on loan performance of commercial banks in Kenya. The research employed a descriptive research design, with the 43 commercial banks being the population of the study. The research applied self-administered questionnaires in the data collection. The findings of the study indicate that the income level, level of education, gender, and the age of borrowers positively influenced the level of loan performance within the commercial banks. The study, however, did not examine how character information and repayment history affected loan performance.

Kiarie (2015) studied the influence of socio-demographic, behavioural, and economic determinants on credit card default in commercial banks in Kenya. The study adopted a descriptive research design with both primary and secondary data being adopted. The research relied on descriptive and correlational analysis. The findings indicate that the age of cardholders, the credit limit, payment of other loans, and the residential status of the firm affected credit card default rates. The study notes that behavioural and economic factors are significant predictors of credit card default rate. The study fails to examine the borrower's behaviour among individual cardholders within the commercial banks.

Karanja, Bichanga, and Kingoriah (2018) examined the influence of credit risk monitoring on the lending performance of commercial banks in Nairobi County, Kenya. The study employed a descriptive research design, with 42 commercial banks being considered in the study. The research utilized both structured and unstructured questionnaires. The findings indicate that credit risk monitoring positively improved lending performance. The study notes that the accessibility of personal information of the borrowers enhanced the bank's capacity to recover the loan. The study did not examine how character information and repayment history affected borrowers' behaviour.

### **2.3.3 Character Information Sharing and Borrowers Behaviour**

Sumathisri and Gayathri (2017) examined the borrowing Behaviour of retail customers in Indian banks. The study adopted a quantum balance analysis with the study relying on primary and secondary research data. The study utilized correlation, regression, and factor analysis. The findings indicate that the overall customer satisfaction level was determined by the attitude of the borrower, the mode of payment and knowledge level among borrowers. The study indicates that a proper loan sanctioning system was key to improving loan repayment. The study was conducted across a retail customer in Indian banks. In contrast, the current study sample scope was personnel within the HFC Bank, Kenya.

Ssebuwufu (2014) studied the determinants of loan defaults in commercial banks in Uganda, focusing on Ecobank (U) Ltd. The study adopted a descriptive survey design with questionnaires being utilized in the data collection. The study applied partial least squares modeling in the data analysis. The findings indicate that 81.2% variations in loan default rates were predicted by the borrower Behaviour, customer commitment, credit administration, and repayment performance. The study indicates that the personality of the borrowers plays an instrumental role in loan repayment. The study further notes that the borrower's attitude, belief, and experience had a significant association with credit repayment. The study was limited to Ugandan commercial banks, while the current study examined the borrowing Behaviour of digital banking customers in Kenya.

Ssekiziyivu, Juma, Nkote, and Tumwebaze (2017) examined the borrowers' characteristics, credit terms, and loan repayment performance among clients of microfinance institutions (MFIs) in Uganda. The study adopted a cross-sectional and correlation research design with data being collected using questionnaires from 51 MFIs in Uganda. The findings of the study indicate that flexibility in the credit terms, borrower's experience, and reputation led to better loan repayment. The study indicates that determining credit terms based on borrower characteristics leads to cheaper interest rates and repayment. The study focused on MFIs in Uganda, while the current study examines the borrowing Behaviour of HFC Bank customers.

Kibret (2019) conducted an assessment of credit management in the case of the development bank of Ethiopia. The study utilized a mixed research approach with both primary and secondary data (2003-2018). The results indicate that adequate credit assessment through monitoring of the borrower, evaluation of their creditworthiness, collateral, and capacity are key to reducing non-performing loans within the bank. The study focuses on the level of non-performing loans within the bank. In contrast, this study sought to establish the effect of CIS on borrowers Behaviour in Kenya. Zoli (2019) analyzed the impact of credit information sharing on the loan portfolio quality of savings and loan companies in Ghana. The study adopted a survey research design and findings indicate that the quality of the information shared and the effective integration in credit assessment within loan companies improved the loan quality. The study notes that previous borrower information was key in designing their loan limits and repayment periods. The study does not examine how demographic information impacts borrower's Behaviour.

Ochung (2013) conducted a study on the factors affecting loan repayment among customers of commercial banks in Kenya. The study adopted a case study of Barclays Bank with a descriptive research design being employed in the study. The population of the study was 78 staff members who were interviewed using self-administered questionnaires. The study indicates there is a significant association between individual borrowers' factors and the loan repayment among customers of commercial banks in Kenya. The study notes that rigorous policies should be put in place to ensure that loan advances are issued to customers with the ability to repay and with a good reputation within the bank. The study failed to examine the individual borrower's Behaviour and did not take into consideration digital borrowers within the bank.

Sophia, Musiega, and Gerishom (2014) studied the impact of borrower character on loan repayment in commercial banks within Kakamega Town. The study employed a cross-sectional survey design with purposive sampling being utilized in selecting 105 respondents. The study adopted self-administered questionnaires in the data collection. Findings indicate that there is a positive relationship between borrower character and loan repayment. The study indicates that a good track record, good reputation, and level of indebtedness affected loan repayment. The study only considered borrower character and failed to examine other factors of CIS, such as demographic information and repayment history in commercial banks.

#### **2.3.4 Repayment History Sharing and Borrowers Behaviour**

Yang and Liu (2016) studied the determinants of the banking sector's credit-granting policy for the yacht industry in Taiwan. The study adopted a survey research design with questionnaires adopted in the study. The study utilized inferential analysis. Findings indicate that banks adopted financial application reviews in monitoring the repayment history of the firms before offering loans. The study also indicates that repayment history was a key credit granting requirements within the banks. The research focused on yacht firm while the current study focuses on individual customer behaviour within the HFC Bank.

Hoque, Sultana, and Thalil (2017) examined the credit rationing's determinants of small and medium enterprises (SMEs) in Chittagong, Bangladesh. The study utilized a descriptive research design with multinomial logit regression being utilized in the research. The findings indicate that 48% of the firm received less credit than they deserved from credit back as a result of the previous loan repayment history. The study further indicates that the age and gender of the firm owners, workplace and household size had a significant impact on credit rationing.

The study focused on SME firms, while the current study examines individual borrower behaviour in Kenya.

Muturi (2016) assessed borrower's and business' factors causing microcredit default in Kenya. The study conducted a comparative analysis of microfinance institutions and financial intermediaries using a descriptive research design. The study relied on descriptive and factor analysis techniques. The results indicate that borrower characteristics and business characteristics significantly affected the microcredit default rate in Kenya. The study indicates that previous credit history and ability to repay the loan were significant in predicting loan performance among micro borrowers. The study focused on financial intermediaries, while the current study examined digital borrowers through the HFC Bank app.

Ong'era (2016) explored the influence of loan lending policies on the financial performance of commercial banks in Kenya. The study adopted a descriptive research design focusing on 18 commercial banks in Kisumu town. The study utilized structured research data and relied on correlation and regression analysis. The findings of the study indicate that loan lending policies fostered the performance of commercial banks. The study indicates that appraising prospective borrowers based on the previous loans and follow-up loans was key to enhancing loan performance in commercial banks. The study notes that matching repayments with income cycles of customers improved loan repayment and financial performance of the bank. The study fails to examine borrowers' behaviour within commercial banks, which is the focus of the current study.

Murimi (2017) examined the effectiveness of the Credit Reference Bureau (CRB) on the provision of credit by commercial banks in Kenya. The study conducted an in-depth analysis of 79 sample respondents selected from the CRB's and commercial banks. The study relied on both primary research data with close-ended questions being utilized. The study indicates that increased credit information sharing facilitated better assessment of risks associated with prospective borrowers, and reduced risk of lending to borrowers who failed in repaying their previous loans. The study focused on CRB personnel, while the current study examined borrowing behaviour among commercial banks in Kenya.

Machoka and Jagongo (2020) examined the relationship between competitive information sharing and credit scoring on the performance of commercial banks in Kenya. The study employed a descriptive research design and relied on both primary and secondary research data. The results indicate that competitive information sharing significantly influenced the

performance of commercial banks. The study indicates that credit scoring, credit monitoring is key to maintaining a quality loan book within banks. The study focuses on the performance of commercial banks. At the same time, current research sought to examine the borrowing Behaviour of HFC customers.

## 2.4 Summary of Literature and Research Gaps

The study reviewed various empirical studies. The various research gaps of the research are summarized in Table 2.1 below:

**Table 2.1 Research Gaps**

<b>Author</b>	<b>Title</b>	<b>Research Findings</b>	<b>Gap and Focus of Study</b>
Bennardo, Pagano, and Piccolo (2014)	Multiple bank lending, creditor rights, and information sharing	The study notes that sharing demographic information helps to incentivize banks leading to credit rationing	The study did not focus on individual digital borrowers which is the context of the current study
Hoque, Sultana, and Thalil (2017)	Credit rationing's determinants of small and medium enterprises (SMEs) in Chittagong, Bangladesh	The study indicates that age and gender of the firm owners, workplace and the household size had a significant impact on credit rationing	The study focused on SME firms while the current study examines individual borrower behaviour in Kenya
Ong'era (2016)	Influence of loan lending policies on the financial performance of commercial banks in Kenya	Findings of the study indicate that loan lending policies fostered the performance of commercial banks	The study fails to examine borrowers' behaviour within commercial banks which is the focus of the current study
Sophia, Musiega, and	Impact of borrower character on loan	The study indicates that good track record, good reputation, and level of	The study only considered borrower character and failed to

<b>Author</b>	<b>Title</b>	<b>Research Findings</b>	<b>Gap and Focus of Study</b>
Gerishom (2014)	repayment in indebtedness affected commercial banks within Kakamega Town	loan repayment	examine other factors of CIS such as demographic information and repayment history in commercial banks
Ssekiziyivu, Juma, Nkote, and Tumwebaze (2017)	Borrowers' characteristics, credit terms and loan repayment performance among clients of microfinance institutions	The findings of the study indicate that flexibility in the credit terms, borrowers experience and reputation led to better loan repayment	The study focused on MFIs in Uganda while the current study examines the borrowing Behaviour of HFC Bank customers
Veluchamy and Arun (2017)	Credit repayment behaviour of borrowers among medium and small microenterprises in India	The study indicates there is no link between demographic characteristics of borrowers and the credit repayment performance	The study fails to examine the effect of character information and repayment history of individual digital borrowers

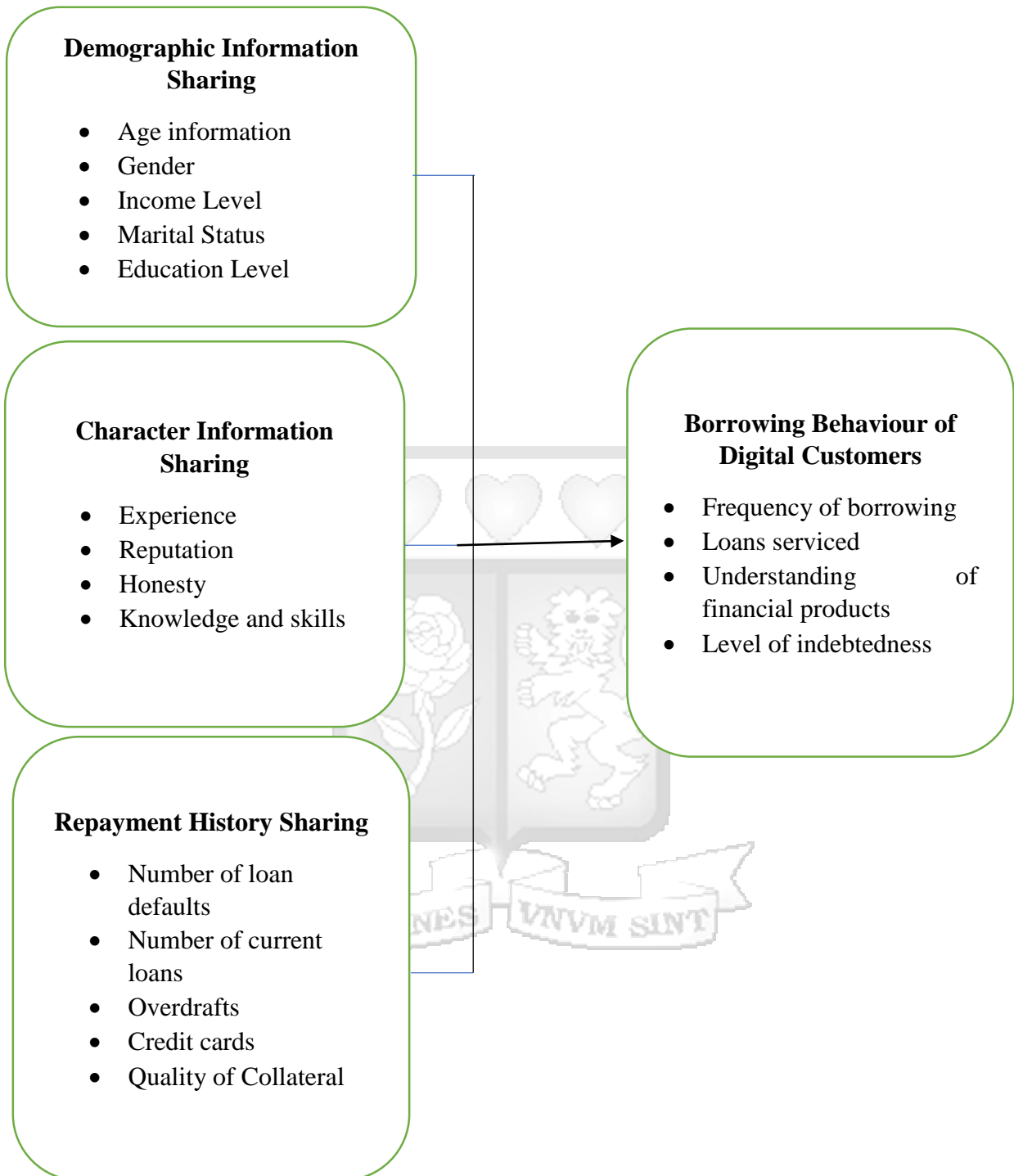
**Source:** Researcher (2020)

## 2.5 Conceptual Framework

A conceptual framework shows the relationship between independent variables and the dependent variable (Sekaran, 2010). The conceptual framework indicates the hypothesized interaction between the demographic information, the character information, the repayment history, and the borrowing behaviour of digital customers at HFC Bank.

## Independent Variables

## Dependent Variable



## Figure 2.1 Conceptual Framework

Source: Researcher (2020)

The above conceptual framework hypothesizes the interaction between credit information sharing and the borrowing behaviour among HFC Bank digital customers. Credit information sharing is conceptualized in terms of demographic information, character information, and the repayment history of the borrowers. The borrowing behaviour is conceptualized in terms of the frequency of borrowing, loans serviced, understanding of financial products, and the level of indebtedness. The variables are operationalized in Table 2.2 below.

**Table 2.2 Operationalization of Variables**

Variable	Type of variable	Indicators	Data collection tool	Data analysis
<b>Demographic Information Sharing</b>	Independent	<ul style="list-style-type: none"> <li>• Age</li> <li>• Gender</li> <li>• Income level</li> <li>• Marital status</li> <li>• Education level</li> </ul>	Structured questionnaire; 5-point Likert scale	Descriptive analysis and inferential analysis
<b>Character Information Sharing</b>	Independent	<ul style="list-style-type: none"> <li>• Experience</li> <li>• Reputation</li> <li>• Honesty</li> <li>• Knowledge and skills</li> </ul>	Structured questionnaire; 5-point Likert scale	Descriptive analysis and inferential analysis
<b>Repayment History Sharing</b>	Independent	<ul style="list-style-type: none"> <li>• Number of loan defaults</li> <li>• Number of current loans</li> <li>• Overdrafts</li> <li>• Credit cards</li> <li>• Quality of Collateral</li> </ul>	Structured questionnaire; 5-point Likert scale	Descriptive analysis and inferential analysis
<b>Borrowing Behaviour</b>	Dependent	<ul style="list-style-type: none"> <li>• Frequency of borrowing</li> <li>• Loans serviced</li> <li>• Understanding of financial products</li> <li>• Level of indebtedness</li> </ul>	Structured questionnaire; 5-point Likert scale	Descriptive analysis and inferential analysis

Source: Researcher (2020)

## CHAPTER THREE

### RESEARCH METHODOLOGY

#### 3.1 Introduction

This chapter presented the various components of the research methodologies that were applied to solving the research problem. The chapter presented the research design, the population of the study, the sampling design, data collection instruments, and procedures as well as the analysis and presentation techniques.

#### 3.2 Research Philosophy

Research philosophy is related to how the researcher develops and understands elements of the research (Saunders, Lewis, & Thornhill, 2016). Pragmatism argues that the most important determinant of epistemology, ontology, and axiology adopted is the research question. This research philosophy has elements of both positivism and constructivism fields (Saunders, Lewis, & Thornbill, 2012). This approach endeavours at combining the positivist and interpretive approaches. The aim is to develop a research outcome and to help improve on correctness and completeness of the study's results. The study adopted the philosophy as it allowed for utilization of both quantitative and qualitative instruments in the data collection process.

##### 3.2.1 Research Design

According to McMillan and Schumacher (2001), research design can be defined as the plan for selecting subjects, location of the study, and various data gathering techniques to answer various research questions. Cooper (2014) also defined research design as the blueprint for collecting data to find answers to research questions. A descriptive cross-sectional survey design was useful in establishing the association between credit information sharing and the borrowing behaviour among HFC Banks customers on the HFC Whizz platform.

According to Sekaran and Bougie (2011), descriptive research tries to explain a problem systematically about a situation to show what is prevalent concerning the issue. A descriptive research design is most suitable since it establishes a relationship between several variables in the same population hence shaping a profile of the occurrence (Leedy & Ormrod, 2013). Hence, the research design was deemed adequate for undertaking this study.

### 3.3 Population and Sampling

#### 3.3.1 Target Population

Kumar and Phrommathed (2005) describe a population as a set of elements, people, or groups of things where information is obtained from. Saunders, Lewis, and Thornhill (2016) define a target population as a sample taken from the general population where the researcher wants to generalize results. The unit of analysis was the person in charge of the HFC Whizz app platform and the customers by HFC Bank. The unit of observation was the individual customers on the HFC Bank Whizz App. According to HFC Bank (2019), there are currently 58,000 customers on the HFC Whizz. The population of the research was the 58,000 customers on the HFC Whizz app and 5-head managers in charge of the HFC Whizz app as key informants to this study. The study selected bank personnel in charge of HFC Whizz app to offer information that is vital to the credit information sharing and borrowing behavior of the bank's customers.

#### 3.3.2 Sampling Design and Sample Size

Cooper and Schindler (2014) describe sampling design as the procedure used by the researcher to identify a sample from a set population that was used for the study. The study utilized random sampling in selecting the respondents. The sampling frame of the research was drawn from the 58,000 customers and 5-senior staff in charge of the HFC Whizz app. A sample size, according to Zikmund, Babin, Carr, and Griffin (2013), should not be too small as it may not serve the purpose of the study or too big as it may be very costly, time-consuming and waste resources. Therefore, when a researcher chooses a sample size, he/she should use scientific methods for this process (Saunders, Lewis, & Thornhill, 2016). The study population of the study was determined using the Yamane formula.

$$\frac{N}{1 + N(e)^2} = n$$

n =sample size,

N = population size

e =level of precision

$$\frac{58000}{1 + 5800 (0.05)^2} = 397$$

The sample size for the study was 397 respondents. The study considered 396-HFC whizz app customers.

### **3.4 Data Collection Instruments**

Kothari (2006) views data collection as the process in which a researcher collects data to be used in a study. Questionnaires were used to collect primary data and Christensen, Johnson, and Turner (2015) note that questionnaires are the most adapted method of collecting data. This method allows for collection of large volumes of data over a short time period. The questionnaire was based on a 5-point Likert Scale. The scale elicits various attitudes and feelings from the respondents on certain subjects. This scale is mostly used to measure the degree of satisfaction of the respondents with various statements, as shown in the research instrument (Cooper & Schindler, 2014). The key informant interview schedule for the five senior staff was developed in line with the study objectives.

### **3.5 Data Collection Procedures**

The research procedure is the process in which research is conducted by a researcher (Cooper & Schindler, 2008). The study has relied on electronic methods in the data collection process. Due to the availability of customer data, the study sought permission from the HFC Digital Banking division to collect research data using Google forms. The study further sought ethical clearance from the Ethical Review Committee of Strathmore Business School before undertaking the research. The study ensured that the consent of the respondents is sought before undertaking the research.

### **3.6 Research Quality**

The study further conducted a pilot testing of the research instrument through sampling 10% of the research respondents. This enabled the study to conduct a pre-test of the research instruments, which helped in ascertaining the reliability and validity of the instruments.

#### **3.6.1 Reliability Tests of Research Instruments**

Reliability is the measure that the data provided is consistent with what similar research with a different group of participants yields a similar set of data (Sekaran & Bougie, 2011). Cronbach's alpha (Cronbach, 1951), was used to determine the internal consistency or average correlation of independent variables to measure their reliability. A high alpha value of above 0.7 was used to suggest that the variables have a relatively high internal reliability.

**Table 3.1 Reliability Statistics**

Variable	Cronbach's Alpha	Number of Items	Comment
<b>Borrowing Behaviour</b>	.720	5	Accepted
<b>Demographic Information Sharing</b>	.765	5	Accepted
<b>Character Information Sharing</b>	.770	5	Accepted
<b>Repayment History</b>	.825	5	Accepted

The study variables all had a Cronbach alpha of above 0.7, indicating they were acceptable in conducting the research analysis. The results show that the borrower's behaviour (.720), demographic information sharing (.765), character information sharing (.770), and repayment history (.825). The study constructs and items were thus included in the main research questionnaire with minimal review of the statements.

### 3.6.2 Validity Tests of Research Instruments

An assessment of what a questionnaire purports to capture can be established through a validity test (Newing, 2011). It captures the differences or congruence between the reality and the explanations. Experts who are aware of credit information sharing within the commercial bank and other institutions were contacted for content validity. Before embarking on the main study, the questionnaire was enhanced and refined for increased content validity. The supervisor further was requested to make input on the validity of the questionnaires with a view of improving the meaningfulness of the data.

### 3.7 Data Analysis and Presentation

Data analysis can also be described as the process of applying various statistical procedures to clean up data to end up with relevant information that can be used in decision-making (Cooper & Schindler, 2008). SPSS 23 was used for editing and coding of the collected data. Both descriptive and inferential analysis methods were applied. The descriptive analysis involved frequencies, means, percentages, and standard deviation. On the other hand, inferential analysis, the research utilized correlation tests, regression tests, and ANOVA tests. Analyzed data was presented as charts, tables, and graphs. The resultant regression model was adopted:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$$

Where;

Y = Dependent variable (borrowing behaviour)

$\alpha$  = the model intercept

$\beta_{1-3}$  = Coefficient of independent variables

$X_1$  – demographic information Sharing

$X_2$  – repayment history Sharing

$X_3$  – character information Sharing

$\varepsilon$  = Error Term

The study utilized the above model to estimate the overall magnitude of the relationship between CIS and borrowing behaviour as well as estimate the effect of the individual independent variables on the borrowing behaviour among digital borrowers.

### **3.8 Ethical Considerations**

According to Christensen et al. (2015), ethical guidelines in research are a set of guiding principles that enable a researcher to conduct ethical research. These ethics, according to the author, comprise of professional issues, the relationship between science and society and the treatment of the research participants. The study ensured that the confidentiality of the respondents was maintained within the study. The research also ensured that the respondent's consent was obtained before collecting research data. The study also ensured that an ethical permit was obtained from Strathmore University Business School. The study also applied for a research permit from the National Commission for Science Technology and Innovation.

## CHAPTER FOUR

### PRESENTATION OF RESEARCH FINDINGS

#### 4.1 Introduction

The chapter focused on presenting the results of the analysis of the collected research. The chapter primarily presented the respondent's background information, the descriptive findings, correlation tests, and regression testing between the independent and dependent variables.

#### 4.2 Response Rate

This section presents the various information focused on the response rate of the study as well as the demographic profile of the participants of the study. Sekaran and Bougie (2011) suggested that a response rate of above 30% is deemed adequate for a research survey. A 64% (252) response rate was received.

#### 4.3 Demographic Profile of Respondents

The research sought to establish the demographic information of the participants of the study with age, marital status, education level, and gender of the respondents analyzed.

**Table 4.1 Demographic Information**

Characteristics	Grouping	Frequency	Percentage
<b>Age of the respondent</b>	18-24 years	51	20.2%
	25-35 years	142	56.4%
	36-45 years	35	13.9%
	46-55 years	18	7.1%
	56 years and above	6	2.4%
<b>Gender of respondent</b>	Male	187	74.2%
	Female	65	25.8%
<b>Education level</b>	O-level	56	22.2%
	Diploma	84	33.3%
	Graduate	95	37.7%

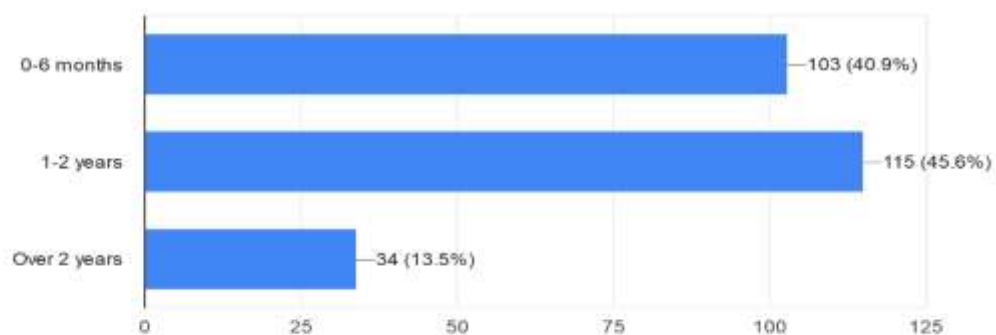
	Postgraduate	17	6.7%
<b>Marital status</b>	Married	142	56.3%
	Divorced	1	0.4%
	Single	109	43.3%

The findings indicate that 56.4% of the respondents were aged between 25-35 years, while 13.9% were between 36-45 years of age. The results also show that 74.2% of the respondents were males, while 25.8% were female respondents. The study also shows that 37.7% of the respondents were graduates. In comparison, only 6.7% of the participants were postgraduate holders. Findings also indicate that 56.3% of the respondents were married, while 43.3% of the participants were single.

#### 4.3.1 Length of Borrowing on the Platform

The study sought to establish the length of time the participants have been borrowing on the platform, and the results are shown in figure 4.1 below. 45.6% had been borrowing for between 1-2 years, 40.9% were on the platform for 0-6 months while only 13.5% have borrowed for more than two years. The findings implied that majority of the participants have been members of HF whizz app since the inception of the services thus they yielded information relevant to the study problem.

How long have you been a borrower on the HF Whizz app platform  
252 responses



## Figure 4.1 Length of Borrowing

### 4.4 Descriptive Analysis

The study sought to analyze the respondent's perception of demographic information sharing, character information sharing, repayment history sharing, and borrowing behaviour. The summary of the Likert scale survey was presented using sum, means, standard deviation, and variance. The study computed each of the variable based on the items captured in the research questionnaire. The computed variable was utilized in conducting inferential analysis.

#### 4.4.1 Demographic Information Sharing

The first variable of the study sought to examine the demographic information sharing among the users of the HFC Whizz digital lending platform. The results are shown in Table 4.2 below.

**Table 4.2 Results for Demographic Information Sharing**

	N	Mean	Std. Deviation
I am aware that the commercial bank has access to my age information in analyzing my creditworthiness	252	4.3413	.97509
I am aware that my gender identity is utilized by the bank in undertaking credit profiling	252	3.6984	1.48173
I am aware that information on my income level is assessed by the bank in making credit decisions	252	4.4286	.98941
I am aware that my marital status is considered by the bank in making credit decisions	252	3.6706	1.41936
I am aware that the bank requires my information on my religion as part of its credit analysis	252	3.8968	1.28943
I am aware that the bank seeks information on my education level in credit assessment	252	3.9484	1.23741

Concerning respondents are aware that information on their income level is assessed by the bank in making credit decisions, there was agreement as indicated by a mean of 4.4286 with a variance of .979 showing moderate variation in responses. The responses indicate there was agreement among respondents that they aware that the commercial bank has access to their age information in analyzing their creditworthiness as indicated by a mean of 4.3413. Findings indicate agreement that respondents are aware that gender identity is utilized by the bank in

undertaking credit profiling, as shown by a mean of 3.6984. The results also show agreement that respondents are aware that marital status is considered by the bank in making credit decisions as indicated by mean of 3.6706.

#### 4.4.2 Character Information Sharing

The second variable of the study sought to examine the character information sharing among the users of the HFC Whizz digital lending platform. Findings are in Table 4.3 below.

**Table 4.3 Results for Character Information Sharing**

	N	Mean	Std. Deviation
I am aware that information on my work experience level is a component of the information the bank seeks in credit analysis	252	4.5079	.93830
I am aware that my reputation with other lenders is considered in the credit analysis	252	4.6151	.85074
I am aware that my honesty in filling my information is considered in credit analysis	252	3.7698	1.36351
I am aware that my skills and knowledge level are shared with the commercial bank during credit profiling	252	4.5397	.87598

Regarding the respondents are aware that their reputation with other lenders is considered in the credit analysis, a 4.6151 mean showed strong agreement. The study also shows strong agreement that respondents are aware that personal skills and knowledge level are shared with the commercial bank during credit profiling, as indicated by mean of 4.5397. The findings also show an agreement among respondents that they are aware that honesty in filling information is considered in credit analysis, as indicated by mean of 3.7698. The results also show agreement that respondents are aware that that the bank seeks information on their education level in credit assessment, as shown by a mean of 3.9484 and variance of 1.531 showing high variations in responses.

#### 4.4.3 Repayment History Sharing

The study further sought to examine the respondent's knowledge of the repayment history sharing by other lenders with the HFC Whizz digital platform with findings in Table 4.4

**Table 4.4 Results for Repayment History Sharing**

	N	Mean	Std. Deviation
I am aware that the bank has access to the number of loans that have defaulted on in credit information sharing	252	4.4246	.96051
I am aware that the bank has access to the number of my current loans in credit information sharing	252	4.2937	.96610
I am aware that the commercial bank has access to information on the credit cards I hold during credit analysis	252	4.3294	.98931
I am aware that the bank reviews the information on my overdraft access during credit analysis	252	2.7937	1.40186
I am aware that the bank accesses information on my collateral/security during the loan processing	252	3.1310	1.46497

The study shows an M= 4.2426 indicating agreement among participants that they are aware that the bank has access to the number of loans that they have defaulted on in credit information sharing. The results also show agreement that respondents are aware that the commercial bank has access to information on the credit cards they hold during credit analysis, as indicated by mean of 4.3294 and variance of .979. The results show disagreement among respondents that the bank reviews the information on their overdraft access during credit analysis M= 2.7937. Concerning the bank accesses information on their collateral/security during the loan processing, there was disagreement as indicated by mean of 3.1310.

#### 4.4.4 Borrowing Behaviour

The dependent variable of the study sought to examine the borrowing behaviour among the users of the HFC Whizz digital lending platform with findings in Table 4.5.

**Table 4.5 Results for Borrowing Behaviour**

	N	Mean	Std. Deviation
I am a frequent borrower on the platform	252	2.7937	1.40186
I have multiple loans to service with other digital lending platforms	252	3.1310	1.46497

I am well aware of the terms and conditions of loan products issued by the bank	252	4.3333	1.00596
I understand the nature of the financial product being offered before applying	252	4.3413	.95444
I am currently able to service all my loans without any risk of default	252	4.1230	1.15904

The results show an agreement among participants that they are aware of the terms and conditions of loan products issued by the bank, as shown by a mean of 4.3333. Concerning respondents understand the nature of the financial product being offered before applying for a loan, there was agreement as indicated by M= 4.3413. The M=3.1310 indicates disagreement among respondents that they have multiple loans to service with other digital lending platforms. The results also show disagreement among respondents; they are frequent borrowers on the platform M= 2.7937. The study also indicates agreement among respondents they are currently able to service all loans without any risk of default, as indicated by mean of 4.1230.

#### 4.5 Correlation Analysis

The study utilized the Spearman Rank correlation to examine the type of association between the study variables, as shown below.

**Table 4.6 Results for Correlation Analysis**

			Demographic Information	Character Information	Repayment History	Borrowing Behaviour
Spearman's rho	Demographic Information	Correlation Coefficient	1.000			
		Sig. (2-tailed)	.			
		N	252			
	Credit Information	Correlation Coefficient	.693**	1.000		
		Sig. (2-tailed)	.000	.		
		N	252	252		
	Repayment History	Correlation Coefficient	.427**	.508**	1.000	
		Sig. (2-tailed)	.000	.000	.	
		N	252	252	252	
	Borrowing Behaviour	Correlation Coefficient	.363**	.368**	.752**	1.000
		Sig. (2-tailed)	.000	.000	.000	.
		N	252	252	252	252

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

The first objective was determining the effect of demographic information sharing on the borrowing behaviour of digital borrowers. Findings show the existence of a positive and significant association with borrowing behaviour ( $R_s = .363$ ,  $\text{Sig} = .000 < .05$ ). Bennardo, Pagano, and Piccolo (2014) also held that improving the sharing of credit information and demographic information will help in mitigating overborrowing.

The study assessed the effect of character information sharing on the borrowing behaviour of digital borrowers. Findings of the correlation analysis indicate a positive and significant association with borrowing behaviour ( $R_s = .368$ ,  $\text{Sig} = .000 < .05$ ). Ssebuwufu (2014) similarly revealed that borrower Behaviour was positively related to borrowers' repayment performance.

The third objective was establishing the effect of repayment history sharing on the borrowing behaviour of digital borrowers with findings showing that repayment history sharing has a positive and significant association in borrowing behaviour ( $R_s = .752$ ,  $\text{Sig} = .000 < .05$ ). Muturi (2016) similarly found out that accessing credit history and ability to repay help in predicting loan performance of micro-borrowers.

#### 4.6 ANOVA Analysis

The study conducted one-way analysis of variance to assess whether there were any statistically significance differences between the mean of the independent variables.

**Table 4.7 ANOVA between Demographic Information Sharing and Borrowing Behaviour**

Borrowing Behaviour					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	923.862	18	51.326	4.598	.000
Within Groups	2600.693	233	11.162		
Total	3524.556	251			

From the study results it is noticeable that the generated significance value =  $.000 < .05$ . The findings further show a calculated F-value of 4.598 which is higher than critical value of 2.76 showing that there is statistical significance in the variance of the two means.

**Table 4.8 ANOVA between Character Information Sharing and Borrowing Behaviour**

Borrowing Behaviour					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	917.442	16	57.340	5.169	.000
Within Groups	2607.114	235	11.094		
Total	3524.556	251			

The study findings indicate a calculated F-value of 5.169 which is higher than critical value of 2.76 showing that there is statistical significance in the variance of the two means. The results also indicate a Sig = .000<.05.

**Table 4.9 ANOVA between Repayment History Sharing and Borrowing Behaviour**

Borrowing Behaviour					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2231.870	17	131.286	23.765	.000
Within Groups	1292.686	234	5.524		
Total	3524.556	251			

From the findings the ANOVA tests generated significance value = .000<.05. The findings further show a calculated F-value of 23.765 which is higher than critical value of 2.76 showing that there is statistical significance in the variance of the two means.

#### 4.7 Diagnostics Tests

##### 4.7.1 Collinearity Tests

Multicollinearity refers to a situation where the predictor variables are highly correlated to each other in a tune of Pearson Correlation values above 0.8 (Field, 2009). The current study relied heavily on modelling to establish nature and strength of relationships between different roles of commercial banks and green finance development. The study relied on both VIF and Tolerance values to access the collinearity (Cooper & Schindler, 2007).

**Table 4.10 Collinearity Results**

Model	Collinearity Statistics	
	Tolerance	VIF
1 (Constant)		
Demographic Information Sharing	.522	1.916
Credit Information Sharing	.451	2.217
Repayment History Sharing	.649	1.540

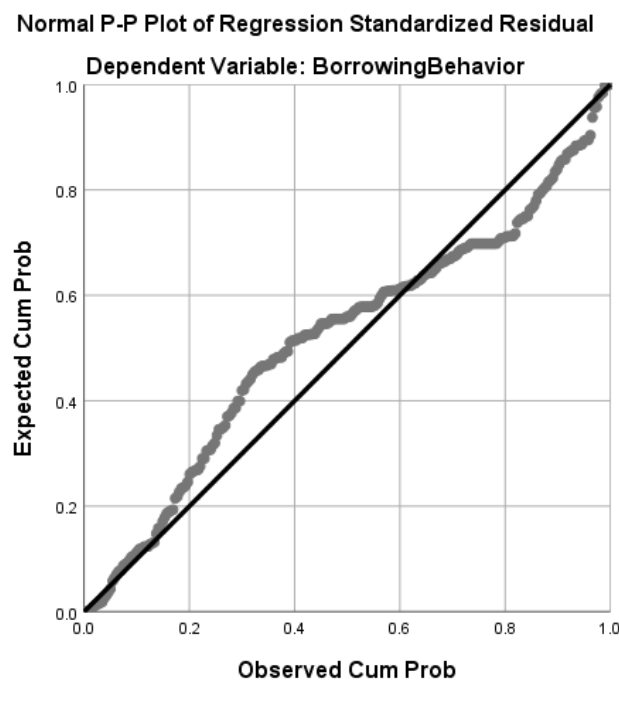
a. Dependent Variable: Borrowing Behaviour

Field (2009) posits that VIF values of below 10 indicate there are no collinearity violations within the model. From the above results the study variables; demographic information sharing VIF = 1.916<10, credit information sharing VIF = 2.217<10 and repayment history sharing

VIF = 1.540 < 10. This indicates there was no collinearity violations. Further all the variables had a Tolerance value of above 0.1

#### 4.7.2 Normality Tests

When analyzing data in the multiple regression model, it is a requirement that data should be normally distributed. The normality test was ascertained by using normality curve (Kothari, 2012). The study reviewed whether the residuals of the regression modelling fit along the normal p-p plot. The curve indicated that study observations fitted within the normality curve as shown on the figure below.



**Figure 4.2 Normality P-P Plot**

#### 4.7.3 Autocorrelation Tests

Serial correlation refers to a situation where the error terms are correlated with each other. The study employed the Durbin-Watson statistic to test for autocorrelation. The findings are shown on the table below.

**Table 4.11 Autocorrelation Results**

Model	Std. Error of the Estimate	Durbin-Watson
1	2.42052	2.068

- a. Predictors: (Constant), Repayment History Sharing, Demographic Information Sharing, Credit Information Sharing
- b. Dependent Variable: Borrowing Behavior

The study utilized the Durbin-Watson statistic to measure for autocorrelation. The results indicated no autocorrelation ( $DW= 2.068$ ) as shown on Table 4.11. Durbin-Watson Scores between 1.5 and 2.5 represent independent observations. This shows no first order correlation in the tests hence no risk of predictability in the model.

#### 4.8 Regression Analysis

The main objective of the study was to examine the influence of credit information sharing on the borrowing behaviour in HFC bank digital lending customers. The study adopted the ordinary least square regression analysis to determine the magnitude of the relationship.

**Table 4.12 Regression Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.767 <sup>a</sup>	.588	.583	2.42052

- a. Predictors: (Constant), Repayment History, Demographic Information, Credit Information
- b. Dependent Variable: Borrowing Behaviour

The study results reveal that the value of R-Square is .588. This implies that 58.8% of the variation in the borrowing behaviour is determined by the credit information sharing in HFC bank (repayment history sharing, demographic information sharing, credit information sharing). Murimi (2017) revealed that the quality of credit information shared was key in reviewing borrower's risk and loan repayment capacity.

**Table 4.13 ANOVA Summary**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2071.546	3	690.515	117.857	.000 <sup>b</sup>
	Residual	1453.010	248	5.859		
	Total	3524.556	251			

- a. Dependent Variable: Borrowing Behaviour
- b. Predictors: (Constant), Repayment History, Demographic Information, Credit Information

The findings in table 4.13; indicate that at 0.05 level of significance the ANOVA test indicated that in this model the independent variable namely; credit information sharing; is significant in predicting borrowing behaviour as indicated by significance value= 0.000 which is less than 0.05 level of significance ( $p=0.000<0.05$ ).

**Table 4.14 Regression Coefficients**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	3.343	.955		3.501	.001
Demographic Information	.095	.048	.112	1.989	.048
Character Information	-.085	.059	-.088	-1.443	.150
Repayment History	.805	.054	.759	14.996	.000

a. Dependent Variable: Borrowing Behaviour

The resulting regression equation was;

$$Y = 3.343 + .095X_1 + -.085X_2 + .805X_3 + .955$$

The results on Table 4.14 reveal a constant = 3.343 which was significant  $p$ -value= 0.001<0.05. The findings indicate  $\beta_1 = .095$  has significant effect on the borrowing behaviour (t-statistic=1.989,  $p$ -value= 0.048<0.05). Therefore, at a 5% significance level, this indicates that for every unit increase in demographic information-sharing, there was a corresponding increase in borrowing behaviour by 0.95.

The results show  $\beta_2 = -.085$  has no significant effect on the borrowing behaviour (t-statistic=-1.443,  $p$ -value= 0.150>0.05). Therefore, at a 5% significance level, this indicates that for every unit increase in character information-sharing, there was a corresponding decrease in borrowing behaviour by -.085.

The findings indicate  $\beta_3 = .805$  has significant effect on the borrowing behaviour (t-statistic=14.996,  $p$ -value= 0.000<0.05). Therefore, at a 5% significance level, this indicates that for every unit increase in repayment history sharing, there was a corresponding increase in borrowing behaviour by 0.805.

## CHAPTER FIVE

### DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

#### 5.1 Introduction

This chapter summarizes the findings and conclusions together with the recommendations made in line with the objectives of the study. It also presents suggestions for further research.

#### 5.2 Summary

The increase in innovation within commercial banks heralded the introduction of digital banking, which has seen increased uptake of bank products. With the introduction of the HFC Whizz lending platform, the bank has witnessed an increase in demand for loans, which comes with an increase in default rate owing to the lack of collateral and information sharing. This culminated to the CBK supporting the development of credit reference bureaus which have been central to the credit information sharing services. However, despite commercial banks heavily relying on CIS, the same cannot be said of the borrowers due to limited awareness of the various information sharing processes adopted within commercial banks. Hence, this study sought to establish the effect of credit information sharing on the borrowing behaviour of HFC bank digital customers. The study specifically sought to establish the effect of demographic information sharing, character information sharing, and repayment history sharing on borrowing behaviour.

The study was grounded on the information asymmetry theory with a positivist research philosophy being employed in the study. The research targeted all the active borrowers on the HFC platform, with a sample of 397 customers being selected for the study. The research applied a structured questionnaire in the data collection with Google forms being utilized in the data collection process. The findings of the regression equation indicate that at least 58.8% of the variations in borrowing behaviour are determined by credit information sharing.

#### 5.3 Discussions

##### 5.3.1 Demographic Information Sharing

The study participants indicated that they are aware that the bank has access to their age information and that their income level was utilized in making credit decisions by the banks. Findings also show that respondents are aware that information on their gender, marital status, and information on religion is required as part of the data used in credit analysis by the commercial banks. The results show that demographic information sharing has a positive and

significant association with borrowing behaviour. The study results also showed awareness among respondents that their work experience level was considered in the credit analysis.

This is as previously reported by Hu, Gu, and Zhou (2017), who indicated that increased sharing of personal information on borrowers helps in reducing default risk and lead to increased borrowing. In line with the above views, Veluchamy and Arun (2017) posited that sharing of demographic characteristics improves the repayment performance among micro-borrowers. Leboo (2013), in a study of local commercial banks, notes that improved sharing of demographic information significantly improves the level of loan performance. Divergent from the views of this study, Karanja, Bichanga, and Kingoriah (2018) focused on the effect of credit monitoring in commercial banks and revealed that increasing accessibility of borrower's personal information was key to improving loan recovery for commercial banks.

### **5.3.2 Character Information Sharing**

Findings show a strong agreement among participants that their reputation with other lenders was considered in credit analysis. The results also indicate agreement among respondents that personal skills and knowledge level are considered in the profiling by the bank. Participants of the study also indicated awareness that banks seek information on their education level and honesty on the information offered as they conduct credit review. Findings of the correlation analysis indicate that character information sharing has a positive and significant association with borrowing behaviour.

The findings drawn by Sumathisri and Gayathri (2017) indicated that having sufficient knowledge of the borrower's attitude and character is critical for commercial banks to enhance their loan repayment rate. Ssebuwufu (2014) also suggested that the borrower's Behaviour significantly predicted their ability to repay loans within commercial banks. Ochung (2013) held that the availability of the individual borrower's information helped in improving the repayment rate among customers. Sophia, Musiega, and Gerishom (2014) indicate that borrower's reputation and indebtedness were key indicators of loan performance. In studies focussing on individual commercial banks, Kibret (2019) and Zoli (2019) indicate that utilization of borrower's information and integrating creditworthiness in credit analysis significantly improved loan performance in commercial banks.

### **5.3.3 Repayment History Sharing**

The results show that repayment history sharing has a positive and significant association with borrowing behaviour. The findings of the review indicate awareness among participants that the bank can access information on the number of loans they have defaulted. The result showed that respondents agreed that the bank could access information on their credit cards during credit analysis. The results indicated that participants were aware that commercial banks had access to the number of loans the client currently holds. Yang and Liu (2016) made similar observations in their study. They indicated that commercial banks monitored the repayment history; loans held the ability to make payments before granting loans to borrowers. This was echoed by Hoque, Sultana, and Thalil (2017) who revealed that the level of credit held and the repayment history were significant factors included in credit decision making within commercial banks. The findings showed respondents disagreed that they are aware the bank reviews information on their overdrafts as well as review information on collateral and forms of security as part of loan processing. These results are consistent with Muturi (2016), who indicated that previous credit history and borrower's ability to repay were key components considered by commercial banks in credit profiling.

### **5.4 Conclusions**

Credit information sharing was positively related to borrowing behaviour among digital borrowers. The study found out there is a positive association between demographic information sharing, repayment history sharing, and borrower's behaviour. The study concludes that sharing information on the age of the borrower, their education level, marital status, and gender is key for banks having an elaborate view of the borrower's behaviour. The study further concludes that reviewing the loans held by borrowers, their previous repayment history, and awareness of their borrowing pattern is instrumental in having a clear view of the borrower's behaviour. The study revealed there is an insignificant effect of character information sharing and borrower's behaviour. The study concludes that reputation, personal knowledge, skills, and honesty do not have any significant impact on the borrower's behaviour. This can be alluded to the fact that borrowers assume since the product is digitally-availed the only key factor is their ability to service the loan and borrow afresh.

### **5.5 Recommendations**

#### **5.5.1 Policy Recommendations**

With the increasing presence of digital lending platforms in Kenya, there is a need for the Central Bank of Kenya to streamline accessibility of credit information sharing to ensure that

quality credit data and reports are generated. Within the course of the research, the CBK has initiated a moratorium on digital lenders in accessing CIS due to faulty submission of defaulters to credit reference bureaus, there is a need for the regulator to conduct a clean review of the records held by the CRB to ensure borrowers are protected from unscrupulous lenders. The study further recommends that in conjunction with financial sector players, the CBK should support easy access of credit information among all citizens to ensure that future borrowers take into consideration their credit scores before accessing any credit facilities.

### **5.5.2 Managerial Recommendations**

It is also important for commercial banks to improve their sensitization of the credit information sharing among their borrowers. This will be key in making sure digital borrowers are aware of what is contained in the credit information shared. This will be beneficial to borrowers in ensuring they keep clean records and credit history, which can improve their level of indebtedness. The study further recommends that commercial banks can leverage on the findings of this study in improving their utilization of the repayment history of borrowers in their credit analysis as it is a key component of identifying their borrowing pattern.

### **5.5.3 Scholarly Recommendations**

The findings of the study have affirmed that information asymmetry theory can be key in guiding the review of CIS mechanisms being employed by commercial bank in Kenya. The theory supported the study in interrogating how the various CIS practices impact the borrowing behavior of digital borrowers. The study problem was premised on the lack of conclusive empirical evidence on borrowing behavior within Kenyan digital borrowers. The findings were able to support the available scholarly evidence that can be utilized as reference material for future research work.

### **5.6 Suggestions for Further Research**

The study notes that credit information sharing has only been limited to the negative information held by credit bureaus; hence there is a need for a review of the credit reports held by the bureaus. It is necessary to carry out further research on assessing the full impact of credit reporting (both positive and negative) on loan performance among all borrowers within commercial banks.

## REFERENCES

- Allen, F., & Santomero, A. (1998). The theory of financial intermediation. *Journal of Banking and Finance*, 21, 1461-1485.
- Austin, Z., & Sutton, J. (2014). Qualitative Research: Getting Started. *The Canadian Journal of Hospital Pharmacy*, 67(6), 436–440.
- Bennardo, A., Pagano, M., & Piccolo, S. (2010). Multiple-Bank Lending, Creditor Rights, and Information Sharing. *Centre for Studies in Economics and Finance* , No. 211.
- Bennardo, A., Pagano, M., & Piccolo, S. (2014). Multiple bank lending, creditor rights, and information sharing. . *Review of Finance* , , 19(2), 519-570.
- Brown, M., Jappelli, T., & Pagano, M. (2009). Information sharing and credit; firm-level evidence from transition countries. . *Journal of Financial Intermediation* , 18(2), 151-172.
- Büyükkarabacak, B., & Valev, N. (2012). Credit information sharing and banking crises: An empirical investigation. . *Journal of Macroeconomics* , , 34(3), 788-800.
- CBK. (2013). *Annual Banking Sector Supervision Report*. Central Bank of Kenya.
- CBK. (2014). *Bank Supervision Annual Report*. Central Bank of Kenya.
- CBK. (2018). *BANK SUPERVISION ANNUAL REPORT 2018*. C E N T R A L B A N K O F K E N Y A.
- Christensen, L. B., Johnson, B., & Turner, L. A. (2015). *Research Methods, Design, and Analysis*. . Harlow: Pearson.
- Cooper, D. (2014). *Business Research Methods*. Singapore: McGraw-Hill.
- Cooper, D., & Schindler, P. (2014). *Business Research Methods*. . New York, NY: : McGraw Hill.
- Cooper, R., & Schindler, P. S. (2008). *Business Research Methods (10th Edition)*. Boston, MA and Burr Ridge, IL: McGraw-Hill.
- Craig, M., Sadoulet, E., & Janvry, A. (2006). Credit information bureaus effect on microfinance. . *European Economic Review* , , 45, 4-8.

- Cronbach, L. J. (1951). Coefficient alpha and the internal structure tests. *Psychometrika*, 16(2), 29-334.
- Dankwah, E. (2012). The relevance of Credit Reference Bureau and its effect on the financial industry in Ghana. . *Unpublished manuscript, Kwame Nkrumah University*.
- De Meza, D., & Webb, D. C. (1987). Too much investment: a problem of asymmetric information. . *The Quarterly Journal of Economics*, , 102(2), 281-292.
- Diro, B. A., & Regasa, D. G. (2014). Impact of micro credit on the livelihood of borrowers: evidence from Mekelle City, Ethiopia. . *J Res Econ Int Financ*, , 3(1), 25-32.
- Freimer, M., & Gordon, M. (1965). Why bankers ration credit. . *Quarterly Journal of Economics*, , 79, 397 - 416.
- Gaitho, N. W. (2013). Role of credit reference bureaus on credit access in Kenya: A survey of commercial banks in Kenya. *European Scientific Journal*, , 9 (13).
- Gehrig, T., & Stenbacka, R. (2007). Information sharing and lending market competition with switching costs and poaching. . *European Economic Review*, , 51(1), 77-91.
- Hahn, J., & Lee, S. (2011). Economic effects of positive credit information sharing: the case of Korea. . *Applied Economics*, , 43(30), 4879-4890.
- Hansen, O. B., & Keiding, H. (2004). Financial Intermediation, Moral Hazard and Pareto Inferior Trade. . *Revista de Economia*, , 5(2), 189-219.
- Hoque, M. Z., Sultana, N., & Thalil, T. (2017). Credit rationing's determinants of small and medium enterprises (SMEs) in Chittagong, Bangladesh. . *Journal of Global Entrepreneurship Research*, , 6(1), 1.
- Hu, N., Gu, W., & Zhou, Y. (2017). The Role of Comprehensive Information Sharing in Credit Market: Theoretical Analysis and New Evidence from the European Union. . *Journal of Modern Accounting and Auditing*, , 13(2), 75-92.
- International Finance Corporation . (2011). *Bank Loans, Trade Credits, and Borrower Characteristics*. Geneva: IFC. .
- Jagongo, A. O., & Kerage, P. M. (2015). Credit Information Sharing and Performance of Commercial Banks in Kenya. . *Global Journal of Commerce & Management perspective*, , 3(6), 18-23.

- Jappelli, T., & Pagano, M. (2018). Role and Effects of Credit Information Sharing. The Economics of Consumer Credit. *European Experience and Lessons* , 136.
- Karanja, J., Bichanga, J., & Kingoriah, G. K. (2018). Influence of Credit Risk Monitoring on Lending Performance of Commercial Banks in Nairobi County, Kenya. . *Jomo Kenyatta University of Agriculture and Technology*.
- Kiage, E., Musyoka, F., & Willy, M. (2015). Influence Of Positive Credit Information Sharing Determinants On The Financial Performance Of Commercial Banks In Kenya. *International Journal Of Economics, Commerce And Management* , 3(3), 1-13.
- Kiarie, F. K. (2015). Influence Of Socio-Demographic, Behavioural And Economic Determinants On Credit Cards Default In Commercial Banks In Kenya. . *Kenyatta University* .
- Kioko, C. (2014). Credit Information Sharing Influence on Performance of Licensed Deposit Taking Sacco Businesses In Kenya. . *The Strategic Journal of Business Change and Management* , 2(39), pp.743-760.
- Kisengese, W. K. (2014). The Impact of Credit Information Sharing on the Level of Non - Performing Loans of Commercial Banks in Kenya. . *United States International University, Africa*.
- Kisengese, W. K. (2014). The Impact of Credit Information Sharing on the Level of non-performing Loans of Commercial Banks in Kenya. *Doctoral dissertation, United States International University-Africa*.
- Kitao, A. (2016). The effect of credit information sharing on profitability of commercial banks in Kenya. . *University of Nairobi*.
- Kothari, S. P. (2006). Performance matched discretionary accrual measures. *Journal of Accounting and Economics* , 39(1), 163-197.
- Kumar, S., & Phrommathed, P. (2005). *Research Methodology* . Springer US.
- Leboo, E. K. (2013 ). The Effect Of Demographic Characteristics On Loan Performance Of Commercial Banks In Kenya. . *University Of Nairobi*.
- Leedy, P. D., & Ormrod, J. E. (2013). *Practical Research: Planning and Design*. . Boston: Pearson.

- Matthews, K., & Thompson, J. (2008). *The Economics of Banking (2nd ed)*. John Wiley & Sons, New Jersey. New Jersey: John Wiley & Sons.
- McMillan, J. H., & Schumacher, S. (2001). *Research in Education. A Conceptual Introduction (5th ed.)*. . New York: Longman.
- Metropol CRB. (2018). *Credit Report*. Metropol CRB Kenya.
- Mituga, J. (2011). Credit Reputation Rating as Collateral: A Case for Liberalization CRBs in Kenya. *Unpublished LLM Project University of Nairobi*.
- Munene, J. R. (2012). The perceived impact of credit reference bureaus in Accessing finance by small and medium enterprises (SMEs) in Kenya . *Doctoral dissertation: UONBI*.
- Murimi, I. N. (2017). The Effectiveness of Credit Reference Bureau (CRB) On the Provision of Credit by Commercial Banks in Kenya . *Doctoral dissertation, United States International University-Africa*.
- Muthoni, R. J. (2014). *Credit information sharing, bank characteristics and credit market performance in Kenya*. . Kenyatta University, Kenya.
- Muturi, P. M. (2016). Assessing Borrower's and Business' Factors Causing Microcredit Default in Kenya: A Comparative Analysis of Microfinance Institutions and Financial Intermediaries. *Journal of Education and Practice* , Vol.7, No.12, 2016 .
- Naceur, S. B., & Omran, M. (2011). The effects of bank regulations, competition, and financial reforms on banks' performance. *Emerging Markets Review* , 12(1), 1-20.
- Newing, H. (2011). *Conducting research in conservation: Social science methods and practice*. . New York, NY: : Routledge.
- Ochung, K. (2013). Factors Affecting Loan Repayment Among Customers Of Commercial Banks In Kenya: A Case Of Barclays Bank Of Kenya, Nairobi County. . *University Of Nairobi*.
- Okumu, O. (2015). Impact Of Credit Information Sharing On Commercial Banks' Loan Portfolio: The Case Of Equity Bank . *United States International University*.
- Olando, C., Jagongo, A., & Mbewa, M. (2013). Influence of Investment Decisions on the Financial Performance of SACCOS: A Survey of Registered SACCOS in Baringo County. *International Journal Of Science And Research (IJSR)*, , 3(17), 112-137.

- Ong'era, J. (2016). Influence Of Loan Lending Policies On Financial Performance Of Commercial Banks In Kenya. *International Journal of Economics, Commerce and Management United Kingdom* , Vol. IV, Issue 11, Page 239 .
- Opiyo, I. (2016). *Credit scoring and the Role of Credit Reference Bureaus*. Nairobi: Longhorn Publishers.
- Powell, A., Mylenko, N., Miller, M., & Majnoni, G. (2004). *Improving credit information, bank regulation and supervision: on the role and design of public credit registries*. World Bank Policy Research Working Paper 3443.
- Rona-Tas, A., & Guseva, A. (2013). Information and consumer credit in Central and Eastern Europe. *Journal of Comparative Economics*, 41(2), 420-435.
- Rowell, D., & Connelly, L. (2012). A History of the Term "Moral Hazard". *Journal Of Risk And Insurance* , 79(4), 1051-1075.
- Saunders, M., Lewis, P., & Thornhill, A. (2016). *Research Methods for Business Students*. Harlow: Pearson Education Limited.
- Sekaran, U., & Bougie, R. (2011). *Research methods for business: A skill building approach. 5th Edition*. Delhi: Aggarwal printing press,.
- Sophia, K. O., Musiega, D., & Gerishom, W. M. (2014). Impact Of Borrower Character On Loan Repayment In Commercial Banks Within Kakamega Town. *International Journal of Technical Research and Applications*. , Volume 2, Issue 4: 157-162.
- Ssebuwufu, R. (2014). Determinants of loan defaults in commercial banks in Uganda: A case study of Ecobank (U) Ltd. *Makerere University*.
- Ssekiziyivu, B., Juma, B., Nkote, I., & Tumwebaze, Z. (2017). Borrowers' characteristics, credit terms and loan repayment performance among clients of microfinance institutions (MFIs): Evidence from rural Uganda. *Journal of Economics and International Finance*. , 10. 10.5897/JEIF2017.0848. .
- Stiglitz, J., & Weiss, A. (1981). Credit rationing in markets with imperfect information. *American Economic Review* , 71 (3), 393-410.
- Sumathisri, B., & Gayathri, G. (2017). Borrowing Behaviour of Retail Customers in Indian Bank. An Analysis. *International Business Management*, 11: 1728-1736.

- Tchamyou, V. S., & Asongu, S. A. (2017). Information sharing and financial sector development in Africa. . *Journal of African Business*, , 18(1), 24-49.
- Veluchamy, R., & Arun, K. (2017). A study on the credit repayment Behaviour of borrowers. . *International Research journal of business and management*, 10. 9-18. .
- Warue, B. (2015). Factors affecting loan delinquency in Microfinance in Kenya. . *International Journal of Management Sciences and Business Research*, , 1(12),, 157.
- Yang, Y. C., & Liu, H. P. (2016). Determinants of banking sector's credit granting policy for the yacht industry in Taiwan. . *Maritime Business Review*, , 1(1), 55-75.
- Zikmund, W., Babin, B., Carr, J., & Griffin, M. (2013). *Business Research Methods. 9th; Chapter 4*. Mason, OH: : South-Western.



## APPENDICES

### Appendix I: Questionnaire

Hello, my name is Rose Wanjiku Muturi. As a requirement for my studies, I am expected to undertake a study on my area of expertise. I am currently undertaking a study on the influence of credit information sharing on the borrower's behaviour among HFC Whizz customers. I am requesting your assistance in answering the research questions in this research instrument. The collected research data was utilized only for academic purposes and the confidentiality of your response was highly maintained.

#### PART A: BACKGROUND INFORMATION

##### 1) Age Bracket

18-24 years

25-35 years

36 – 45 years

46 – 55 years

56 years and above

##### 2) Gender

Male

Female

##### 3) Education Level

O- Level

Diploma

Graduate

Postgraduate

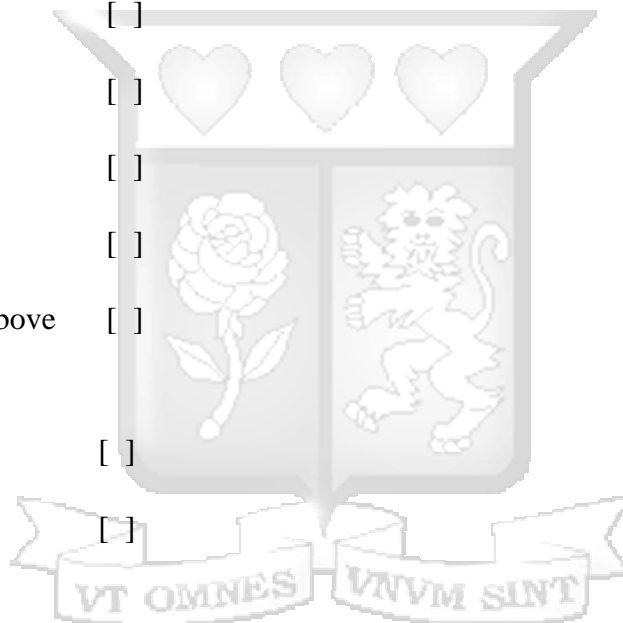
##### 4) Marital Status

Married

Divorced

Single

##### 5) How long have you been a borrower on the HFC Whizz app platform?



0-6 months [ ]

1-2 years [ ]

Over 2 years [ ]

**PART B: INFLUENCE OF CREDIT INFORMATION SHARING ON THE BORROWING BEHAVIOUR IN HFC BANK DIGITAL LENDING CUSTOMERS**

**6) To what extent as a customer on the HFC Whizz app on the credit information sharing undertaken by the commercial bank?**

Not at all ( ) To a small extent ( )

Great extent ( ) Very great extent ( )

**7) What type of credit information shared with the commercial bank are you aware of as the customer?**

Demographic information ( ) Character information ( )

Repayment history ( ) Borrowing pattern ( )

Kindly answer the following questions based on your agreement with the following statements in regard to the access to credit information and the borrowing behaviour among digital lending customers. The scale level ranges from 1 – 5

5= strongly agree 4= Agree 3= Disagree 2= Strongly Disagree 1= Neither Agree nor Disagree

No	Demographic Information Sharing	5	4	3	2	1
1)	I am aware that the commercial bank has access to my age information in analyzing my creditworthiness					
2)	I am aware that my gender identity is utilized by the bank in undertaking credit profiling					
3)	I am aware that information on my income level is assessed by the bank in making credit decisions					
4)	I am aware that my marital status is considered by the bank in making credit decisions					
5)	I am aware that the bank seeks information on my education level in credit assessment					

Kindly answer the following questions based on your agreement with the following statements. The scale level ranges from 1 – 5

5= strongly agree    4= Agree    3= Disagree    2= Strongly Disagree    1= Neither Agree nor Disagree

No	Character Information Sharing	5	4	3	2	1
1)	I am aware that information on my work experience level is a component of the information the bank seeks in credit analysis					
2)	I am aware that my reputation with other lenders is considered in the credit analysis					
3)	I am aware that my honesty in filling my information is considered in credit analysis					
4)	I am aware that my personal skills and knowledge level are shared with the commercial bank during credit profiling					

Kindly answer the following questions based on your agreement with the following statements. The scale level ranges from 1 – 5

5= strongly agree    4= Agree    3= Disagree    2= Strongly Disagree    1= Neither Agree nor Disagree

No	Repayment History Information Sharing	5	4	3	2	1
1)	I am aware that the bank has access to the number of loans that have defaulted on in credit information sharing					
2)	I am aware that the bank has access to the number of my current loans in credit information sharing					

3)	I am aware that the commercial bank has access to information on the credit cards I hold during credit analysis					
4)	I am aware that the bank reviews the information on my overdraft access during credit analysis					
5)	I am aware that the bank accesses information on my collateral/security during the loan processing					

Kindly answer the following questions based on your agreement with the following statements. The scale level ranges from 1 – 5

5= strongly agree    4= Agree    3= Disagree    2= Strongly Disagree    1= Neither Agree nor Disagree

No	Borrowing Behaviour	5	4	3	2	1
1)	I am a frequent borrower on the platform					
2)	I have multiple loans to service with other digital lending platforms					
3)	I am well aware of the terms and conditions of loan products issued by the bank					
4)	I understand the nature of the financial product being offered prior to applying					
5)	I am currently able to service all my loans without any risk of default					

## Appendix II: Interview Schedule

1. How is the commercial bank involved in the formulation of credit information sharing with other stakeholders?

.....  
.....  
.....

**2. How is the commercial bank involved in the management of credit information on its' customers with other stakeholders?**

.....  
.....  
.....

**3. How are the commercial bank credit policies aligned with the credit information sharing practice?**

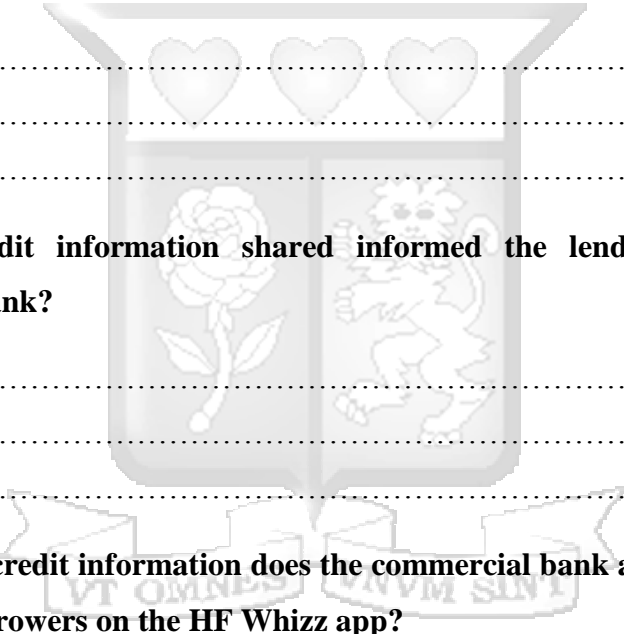
.....  
.....  
.....

**4. How has credit information shared informed the lending pattern of the commercial bank?**


.....  
.....  
.....


**5. What time of credit information does the commercial bank access with regard to the digital borrowers on the HF Whizz app?**

.....  
.....  
.....




**Appendix III: NACOSTI License**

  
REPUBLIC OF KENYA

  
NATIONAL COMMISSION FOR  
SCIENCE, TECHNOLOGY & INNOVATION

Ref No: **544449** Date of Issue: **16/March/2020**


**RESEARCH LICENSE**



**This is to Certify that Miss., Rose Wanjiku of Strathmore University, has been licensed to conduct research in Nairobi on the topic: INFLUENCE OF CREDIT INFORMATION SHARING ON THE BORROWING BEHAVIOR IN KENYAN COMMERCIAL BANKS: A CASE OF HF BANK DIGITAL LENDING for the period ending : 16/March/2021.**

License No: **NACOSTI/P/20/4431**

**544449**  
Applicant Identification Number

  
Director General  
NATIONAL COMMISSION FOR  
SCIENCE, TECHNOLOGY &  
INNOVATION

Verification QR Code



**NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.**

## Appendix IV: Ethics Review Letter



2<sup>nd</sup> April 2020

Ms Muturi, Rose  
wanjiku.muturi@strathmore.edu

Ms Muturi,

**RE: Influence of Credit Information Sharing on The Borrowing Behaviour  
In Kenyan Commercial Banks: A Case Of HFC Bank Digital Lending**

This is to inform you that SU-IERC has reviewed and **approved** your above research proposal. Your application approval number is **SU-IERC0660/20**. The approval period is **2<sup>nd</sup> April 2020 to 1<sup>st</sup> April 2021**.

This approval is subject to compliance with the following requirements:

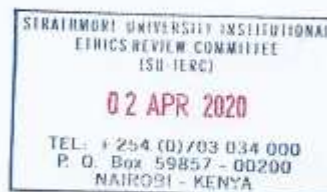
- i. Only approved documents including (informed consents, study instruments, MTA) will be used
- ii. All changes including (amendments, deviations, and violations) are submitted for review and approval by SU-IERC.
- iii. Death and life threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to SU-IERC within 72 hours of notification
- iv. Any changes, anticipated or otherwise that may increase the risks or affected safety or welfare of study participants and others or affect the integrity of the research must be reported to SU-IERC within 72 hours
- v. Clearance for export of biological specimens must be obtained from relevant institutions.
- vi. Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. Attach a comprehensive progress report to support the renewal.
- vii. Submission of an executive summary report within 90 days upon completion of the study to SU-IERC.

Prior to commencing your study, you will be expected to obtain a research license from National Commission for Science, Technology and Innovation (NACOSTI) <https://oris.nacosti.go.ke> and also obtain other clearances needed.

Yours sincerely,

for: Dr Virginia Gichuru,  
Secretary; SU-IERC

Cc: Prof Fred Were,  
Chairperson; SU-IERC



Ole Sangale Rd, Madaraka Estate. PO Box 59857-00200, Nairobi, Kenya. Tel +254 (0)703 034000  
Email info@strathmore.edu www.strathmore.edu

